LONDON SCHOOL® OF MANAGEMENT EDUCATION

REPORT ON THE PROCEEDINGS OF

8th LSME INTERNATIONAL RESEARCH CONFERENCE ON

SUSTAINABLE DEVELOPMENT AND EDUCATION

DATES | 26 – 27 August 2021

EDITORIAL BOARD

Dr Ravi Kumar, Conference Convener
Professor Stephen McKinney, Conference Chairman
Martin McAreavey | Dr Sarita Parhi | Dr Dolly Jackson-Sillah
Dr Peter Gray | Hassan Shifau

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MESSAGES

THE LORD SHEIKH, HOUSE OF LORDS, UK

The Lord Sheikh

House of Lords
Westminster
London
SW1A 0PW
Tel: 020 7219 4542
E-mail: sheikhm@parliament.uk
Web-site: www.lordsheikh.com

20th December 2021

Dear Reader

It was once again a great pleasure for me to take part in the 8th LSME International Research Conference earlier this year. This was the third consecutive LSME international research conference that I have attended, and once again I had the privilege of inaugurating the event.

Given the ongoing impact of the Covid pandemic on both a national and international basis, I was delighted to see such a broad range of nationalities and academic disciplines involved this year, facilitated by the use of enabling ICT. It was clear that the success of the 2020 event, also delivered using the internet across international boundaries, had resulted in the development of confidence, capability and flair in the use of technology as the medium for interaction between presenters and delegates.

It was heartening too, to see the common ground now occupied by researchers and academics in terms of the dissemination and scrutiny of new knowledge.

Once again, our friends at LSME made a magnificent effort to foster a collegial and democratic atmosphere throughout all aspects of the conference. A tremendous amount of work and coordination clearly went into the preparations for the streamed sessions, including detailed screening of participants, selection of papers, and a myriad of conversations brought together smoothly to deliver a seamless and professional quality event.

Without doubt the conference can be judged to have been a success, not only by the quality of the research presentations that were delivered, but also by the high level of interaction between delegates and presenters, a clear hallmark of deep interest generated though significant research themes.

The overarching theme for the conference, namely 'Sustainable Development and Education' is increasingly on the agenda for all nations. This year we have seen the start of a more coordinated international movement towards lasting economic change, and with this as a back-drop, many of the papers presented offered startling and challenging insights into the problems faced at grass roots level by those who will assume the mantle for implementing the changes that the world needs in order to survive.

As in previous years' events in the series, it was particularly heartening to observe young researchers from different parts of the world, offering hope for a brighter future as we learn to adapt to global challenges. The maturity of the research community associated with this conference always fills me with awe and respect for the next generation.

I offer my sincere thanks to all who took part in the 2021 event for your contributions and insights, and I look forward to maintaining my involvement in the ongoing conference series.

Mhamed Sheikh

The Lord Sheikh

MESSAGE FROM PROFESSOR STEPHEN MCKINNEY UNIVERSITY OF GLASGOW, CONFERENCE CHAIRMAN

The 8th LSME International Research Conference addressed the topic of Sustainable Development and Education on the 26th and 27th of August 2021. This was the second LSME online conference during the period of the pandemic – the first being in 2020. The topic is very timely and aimed to explore the relationship between sustainable development and education as the world becomes acutely aware of the importance of the responsibility to care for the environment. At the time of writing this greeting, Glasgow is preparing for the COP26 conference and awaiting the arrival of delegates from all parts of the world. It is not an exaggeration to state that the world hopes (and expects) that there will be very positive outcomes from this conference, and that there will be strategies evolved for decisive action to tackle climate change.

The papers presented at the conference drew on research in schools, College and University education and in management and medicine. The presenters were from different parts of the world. As always, the LSME International conference provided an opportunity for many early career researchers to present and discuss their research in a collegial academic setting. This is one of the great strengths, and a deeply satisfying dimension, of the LSME conferences – the practice of supporting capacity building of early career researchers and helping them to develop their thinking and progress their academic profile.

The conference commenced with a keynote by Professor Petra Molthan-Hill and a special lecture by H.E. Dr Abdulla Naseer, Minister of state for the environment, Maldives. This keynote and special lecture were very informative and very engaging and provided an excellent start to the conference. There were many papers presented at the conference and this proceedings book provides a wonderful overview of the conference and of the variety of papers. I take this opportunity to thank all of those who presented papers at the conference and thank all of those who participated in the conference as delegates. The conference committee was delighted with the quality of the papers and the high level of academic rigour demonstrated in the research.

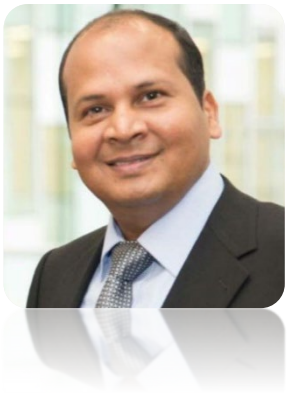
I thank Lord Sheikh, our Chief Guest, and the guests of honour for participating in the conference. Lord Sheikh is a very loyal friend to the LSME, and we record our deep gratitude. The Conference committee worked hard to ensure that the conference was carefully prepared, and I thank: Dr Ravi Kumar, Dr Sarita Parhi, Mr Hassan Shifau, Dr Dolly Jackson-Sillah, Dr Peter Gray, Martin McAreavey, and Dr Alexandra Okada. I thank all of those who reviewed the abstracts for the conference. The staff and students at the LSME, as always, provided invaluable support to the conference and I think all of those who were rapporteurs and those who provided IT support. Finally, a heartfelt thanks to Dr Ravi Kumar, Dr Sarita Parhi and Mr Hassan Shifau for their commitment, hard work and close attention to detail.

I look forward to the 9th LSME International Research Conference and hope that we can meet face-to-face.

With very best wishes,

Professor Stephen McKinney
University of Glasgow and Conference Chairman

MESSAGE FROM DR RAVI KUMAR
LONDON SCHOOL OF MANAGEMENT EDUCATION
CONFERENCE CONVENER



It is my great pleasure to extend a warm vote of thanks to our esteemed guests, keynote speakers, presenters and delegates for having contributed to the undoubted success of our 8th LSME International Conference on "Sustainable Development and Education". On behalf of the organizing committee and all who worked tirelessly behind the scenes to deliver another outstanding event in August, I commend all who took part for your universally positive input, generous support and contribution of your valuable time.

In particular, I wish to thank our Chief Guests, The Lord and Lady Sheikh, Professor Petra Molthan-Hill, His Excellency Dr. Durga Bahadur Subedi and Professor Rajan Welukar for your distinguished contributions to the Conference and your continuing support to the Conference series. As ever we were delighted to receive your insights and observations as an underpinning source of inspiration and orientation to the Conference proceedings.

Special thanks must go to the Organising Committee for once again overcoming significant technical, economic and operational challenges to deliver a seamless and professional event. Likewise, the amazing support and unceasing effort expended by my wonderful staff and colleagues at LSME was once again a hallmark of the quality and attention to detail enabling the success of the Conference. To all speakers, for sharing your research concepts and findings freely, we commend you on your enduring thirst for new knowledge and practical solutions to challenging issues. Finally, thank you too for all delegates for listening attentively, engaging proactively and respectfully with speakers and for gracing us with your presence from so many international locations once again this year. Together we delivered an outstanding research event of excellent quality and wide thematic scope and coverage.

The LSME International Conference Series

Since our first conference in London in 2015, LSME has maintained an enviable track record of events each year, each based around the tenets of Responsible Research and Innovation (RRI) and themed each year to address issues and challenges of particular global relevance. We have enjoyed the opportunity to deliver these events in a range of settings and in a number of high prestige international locations. In 2021, the ongoing global pandemic once again mandated the use of virtual technology in order to enable the Conference to go ahead as planned. Rather than this impacting the Conference negatively, however, this enabled an increase in global participation and reach above and beyond what had previously been achieved in face to face events. We can confidently say, at this point, that we believe we can adapt to any challenge to maintain our onward and upward positive trajectory for the Conference series.

Conference Theme 2021

Our focus this year was selected to reflect the growing international interest in action to deliver sustainable positive change across all aspects of society. Taking an education perspective continued our track record for channeling Conference business into areas of practical impact and universal relevance. Whilst we sometimes become engrossed in the consideration of local, regional or national impacts of global phenomena, through the papers presented at Conference 2021 we once again found clear evidence of common issues facing human communities with resulting opportunities to consider potential solutions too.

I thank you, the reader, for taking the time to consider the Conference Proceedings contained in this publication. It is our strong intention to build into the long term on the learning and insights accruing to our community of interest around RRI and allied themes. I believe we can work together to improve understanding of many influences on the future, and events such as the LSME International RRI series present a unique opportunity for researchers, delegates and scholars to come together for the good of our wider human community.

As ever, there is a diverse range of contributions represented in this Conference Proceedings Booklet. As proponents of RRI, we encourage participation from researchers at all levels and subject disciplines, with the one proviso that in sharing our knowledge, we do so freely and for the benefit of all stakeholders impacted by our work.

Please feel free to share your feedback with the Conference Organising Committee, and to consider taking an active part in the success of future research events in the series.

With best regards,

Dr Ravi Kumar
Executive Director of LSME & Conference Convener

MESSAGE FROM DR PETER GRAY
NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY (NTNU)
NORWAY

Dear Friends and Colleagues,

Once more, LSME has succeeded in maintaining its forward progress, by holding a major conference online in the midst of the pandemic. I congratulate all those who presented and organized, who wrote and reviewed and rewrote papers, and those who stayed and listened. The annual Responsible Research and Innovation conference is one of LSME's major contributions to changing the ways in which research is done, and findings are communicated. But the work you will find in this publication is only the foundation for something much bolder and more ambitious.

The Covid-19 pandemic has shown the power of science in producing effective vaccines in just a few months. That research was done on the basis of other research, as the scientific knowledge base continues to grow. But size isn't everything. According to some well-informed estimates, around 90% of published medical research is useless, consisting of weak studies that cannot or should not be replicated. Just because something can be researched scientifically doesn't mean that it should be. And just because there is a 'gap in the literature' doesn't necessarily mean that it should be filled.

The future of scientific research is not in expanding the number of publications but in increasing the quality and significance of research itself. Researchers need to take responsibility for this and to ask themselves "Why am I researching this topic?". Of course, researchers, especially in their early careers, are constrained by outdated modes of supervision, whilst even experienced researchers are constrained by unimaginative research management and governance systems. All of us in the academic community have a responsibility to question the workings of research ecosystems. You are part of this academic community by virtue of reading this publication.

LSME will, in the not-too-distant future, become a great university. I have no doubt whatsoever that this will happen, under the inspired leadership of Dr Ravi Kumar, Dr Sarita Parhi and the astonishing LSME team. You may well think of other places than Ilford when "great universities" are mentioned. Oxford, Stanford, Cambridge, Tsinghua...But although Oxford lends its name to one of the vaccines that will get us out of the pandemic, it also produced many of the people who led us into it. You know who.

A truly great university would be producing not only world-class research, but also world-class graduates. It is not surprising, given its domination of research funding in the UK, that Oxford produced a vaccine. It is, on the other hand, very surprising that, given around 900 years of teaching experience, Oxford is still producing graduates with impressive degrees but deplorable ethical and moral imaginations.

LSME is small, but its graduates are already far ahead, in their talents and attitudes, of many so-called 'elite' institutions. This is due to their own magnificent efforts, combined with the high standards set by Dr Ravi and Dr Sarita. LSME's research is also on a small scale, but it has a big *research vision*, which will, ultimately, grow into something that will change the world. And that is what we need!

Dr Peter Gray
NTNU, Norway

INTRODUCTION

The London School of Management Education (LSME) is proud to present an overview of proceedings from the 8th LSME International Research Conference on 'Sustainable Development and Education', which took place online between 26th and 27th August 2021.

Following many months of meticulous planning and preparation by the Conference Committee supported by a team of dedicated academics, administrative and creative contributors, the 2021 Conference built upon the successes achieved in previous years. In particular, the knowledge and experience gained from taking the Conference online in 2020 for the first time helped to ensure the smooth running and timely delivery of the 2021 event.

In common with previous years, the International nature, core principles of Responsible Research and Innovation, and a clear theme for the conference meant there was a great deal of interest across the research community in taking part. The conference team worked tirelessly with prospective contributors from around the world to ensure that the final programme featured papers with strong academic integrity, practical / real world application and relevance to a wide range of established, current and emerging themes aligned with the overall conference context.

This booklet provides a summary of the proceedings, with messages from key guests and invited speakers, and summaries of conference sessions received from rapporteurs in each themed stream of papers.

Objectives of the Conference

The conference continued to be framed by the overarching tenets of Responsible Research and Innovation (RRI) that have served the LSME Conference Series so well since its inception in 2014. This year's event featured the following objectives as a guide for contributions from the international research community:

- To provide an inclusive platform fostering an active community of researchers collaborating on issues of social significance and societal concern
- To advance the principles and practices of Responsible Research and Innovations (RRI) in support of researchers at all stages of their research journey
- To provide an open and accessible mechanism for sharing creative contributions to the research agenda across a range of subject matter and discipline areas

Mission Statement

Our long-standing alignment with the tenets of Responsible Research and Innovation agenda provide an overarching mission for the conference, namely to:

- Promote social justice, inclusion and equity
- Increase the influence of research on policy and practice in key impact areas
- Increase the commitment of participants in research via active involvement in all stages of an open, principled and inclusive process of investigation and dissemination of findings

These principles are applied equally to all participants, including researchers, academic observers, delegates and the wider communities touched by research projects explored in the conference.

ABOUT LONDON SCHOOL OF MANAGEMENT EDUCATION (LSME)

London School of Management Education (LSME) is a Higher Education Institution based in the London Borough of Redbridge, United Kingdom.

Vision

To play a leading role in the delivery of global education services in partnership through radical Lifelong Learning training, equipping managers, health and social care professionals, tutors, teachers and trainers, with modern and transformational standards.

Mission

Our mission is to provide affordable and high-quality training for aspiring and practising managers, health & social care professionals and educationalists that is innovative and global in perspective and abides by the United Nation's Principles of Responsible Management Education. Values the School seeks to nurture and sustain a creative and supportive academic environment based upon an ethos of respect and transparency.

Commitment

We are committed to:

- High-quality learning experience
- Developing and sharing expertise to strengthen our capacity
- Professional relationships based on mutual respect and transparency
- Equality and diversity
- Financial robustness

The School's philosophy is enshrined in its slogan: "*Transforming people with skills*". We aim to introduce our students to the innovative skills required for their careers in business, education or health and social care. LSME aims to achieve this by being a facilitator for encouraging scholarly inquiries that examine "education and the learning processes and human attributes, interactions, organisations, and institutions that shape education and its outcomes".

CONFERENCE COMMITTEE MEMBERS

Prof Stephen McKinney
University of Glasgow
UK

Conference Chairman

Dr Ravi Kumar
London School of Management Education
UK

Conference Convener

Dr Sarita Parhi
London School of Management Education
UK

Dr Peter Gray
Norwegian University of Science and Technology
Norway

Martin McAreavey
University of Bolton
UK

Hassan Shifau
London School of Management Education
UK

Dr Alexandra Okada
Open University
UK

Dr Dolly Jackson-Sillah
London School of Management Education
UK

CONFERENCE PROGRAMME

DAY 1: 26 August 2021 (Thursday)

INAUGURAL SESSION Chairperson: Professor Stephen McKinney		
08:00 – 09:00	Technical Support to Delegates and Participants	Technical Co-hosts
09:00 – 09:35	House Keeping Announcements	MC
09:35 – 09:45	Welcome Address	Dr Ravi Kumar, Conference Convener
09:45 – 09:55	Recognition of the VIP Guests	Hassan Shifau, CRIO
09:55 – 10:00	Photo Presentation of LSME International Research Conference Series	MC
10:00 – 10:07	Introduction to 8th LSME International Research Conference 2021	Professor Stephen McKinney, Conference Chairperson & Guest of Honour
10:07 – 10:12	Special Remarks from the Guest of Honour	Dr Peter Gray, NTNU, Norway
10:12 – 10:15	Good wishes from the Guest of Honour	Professor Petra Molthan-Hill
10:15 – 10:20	Special Remarks by Guest of Honour	H.E Dr Durga Bahadur Subedi, Chief of Protocol, Government of Nepal
10:20 – 10:25	Special Remarks by Guest of Honour	Professor Rajan Welukar, Vice-Chancellor, Auro University, India
10:25 – 10:40	Inaugural Address by the Chief Guest	Lord Sheikh, House of Lords, UK
10:40 – 10:45	Vote of Thanks	Dr Dolly Jackson-Sillah, Vice Principal, LSME
	Group Photo Inaugural Session Ends	MC

Health Break (30 Minutes)

PLENARY SESSION: KEYNOTE		
	Chairperson: Professor Stephen McKinney Rapporteur: Dr Dolly Jackson-Sillah	
11:15 – 11:45	Keynote 1: High Impact Climate Solutions: We can do it!	Professor Petra Molthan-Hill, Nottingham Business School, Nottingham Trent University, UK
	Interactive Discussion	Hassan Shifau, LSME
	Q & A Session	
11:45 – 12:00	All Presenters and participants move to Parallel Session Rooms and Housekeeping announcements	Technical Hosts

12:00 – 13:45	**Parallel Session 1A: EDUCATION** *[Presentation time is 12 minutes and 3 minutes of Q&A]* Chairperson: Martin McAreavey Rapporteur: Mrs Lydia Mireku		
Paper Presentations			
Time	**Name**	**Country**	**Title**
12:00 – 12:15	Dr Amit Joshi	India	School is Not Out for teachers: Contribution of Continuing Education on the Career Growth and Development of Teachers in Higher Education Institutions
12:15 – 12:30	Mrs Antara Bose	India	Socio-Demographic Determinants Affecting Education and the Nutritional Status among School Children and Adolescents During COVID-19: In Context to India
12:30 – 12:45	Ms Anusree Bose	India	Gauging Financial Literacy - A Study on College Teachers of Kolkata
12:45 – 13:00	Mr Ashok Kumar Singh	India	Targeted Education for Sustainable Development in Primary Education
13:00 – 13:15	Ms Azhanuo Peki	India	Vocational Education and ICT in Colleges: A Prospect on Livelihood Promotion for Rural Districts in Nagaland
13:15 – 13:30	Dr Lt S Ravibalan	India	Educational Sustainability – A Historically Linear Perspective and its Techno Fads in Reality
13:30 – 13:45	Ms Jayeeta Dutta	India	Higher Education in Maharashtra: Today and Paradigm Shifts for New Pathways

12:00 – 14:00	**Parallel Session 1B: EDUCATION** *[Presentation time is 12 minutes and 3 minutes of Q&A]* Chairperson: Dr Gulshan Jawa Rapporteur: Mr Jose Kattady		
Paper Presentations			
Time	**Name**	**Country**	**Title**
12:00 – 12:15	Dr Madhumita Chanda	India	Treating the Root System: Introduction of Sustainability in School
12:15 – 12:30	Dr Mayurakshee Gangopadhyay	India	Online Education: Participation of Female Students and Gender Equality
12:30 – 12:45	Dr Minisha Gupta	India	Implementing Ed-Tech Model in Indian Institutions from Teachers' perspective: A Conceptual Framework
12:45 – 13:00	Dr Monika Chopra	India	Heutagogy: An Approach to Empower Learners
13:00 – 13:15	Dr Rimjim Borah	India	How to Achieve Sustainable Development Goal 4: India's Context with New Education Policy 2020
13:15 – 13:30	Dr Rini E Stephen	India	Pedagogic Calibration for Sustainable Living: Empirics from Evidence-Based Reasoning Strategy (EBRS) in Biology
13:30 – 13:45	Dr Shelly Aggarwal	India	Revamping E-Learning Platforms: Catering Life Long Learning Amid Pandemic
13:45 – 14:00	Dr Tapati Mukherjee	India	Targeted Education for Sustainable Development

12:00 – 14:00	**Parallel Session 1C: EDUCATION** *[Presentation time is 12 minutes and 3 minutes of Q&A]* Chairperson: Professor Stephen McKinney Rapporteurs: Dr Dolly Jackson-Sillah & Dr Mabel Zvobgo		
Paper Presentations			
Time	**Name**	**Country**	**Title**
12:00 – 12:15	Mrs K Sindhu Bhavani	India	Impact of Digitalized Learning in the Field of Education Among Children with Learning Disabilities in Pandemic Situation: Case Study
12:15 – 12:30	Ms Marina Vianna	Brazil	The Use of Didactic Strategies and Technologies to Support Remote and Distance Learning
12:30 – 12:45	Mrs Vimla Choudhary	India	Democratic Education and Sustainable Development
12:45 – 13:00	Mr Vinay Lautre	India	Privatization as a Socio-Economical policy and its Impact on Teacher Education
13:00 – 13:15	Ms Komal Gagare	India	Impact of COVID- 19 on Skills and Attitude of School Teachers in Relation to Teaching Learning Resources
13:15 – 13:30	Ms R Subhashini Imran	India	Sustainable Education in Reading: An Effective Learning through Two-Fold Text
13:30 – 13:45	Ms Parminder Kaur	India	Impact of COVID Crises on School Education in India
13:45 – 14:00	Mr Rampravesh Ramjisingh	India	Opinion of the Stakeholder About the No Detention Policy in Secondary Students

12:00 – 14:15	**Parallel Session 1D: EDUCATION** *[Presentation time is 12 minutes and 3 minutes of Q&A]* Chairperson: Professor Zingiswa M M Jojo Rapporteurs: Mr Alfred Anim Agyeman & Mr Richard Osei Asibey-Bonsu		
Paper Presentations			
Time	**Name**	**Country**	**Title**
12:00 – 12:15	Mr Samuel Abiodun Alara	Nigeria	The Role of Education in COVID-19 Safety Awareness Among Building Construction Operatives in Adamawa – Nigeria
12:15 – 12:30	Mr Styne Joseph	India	Sustainable Development Through Environmentally Responsible Behaviour: Role of Education
12:30 – 12:45	Dr Chandrashekaran Praveen	India	Pragmatic Solutions For Post COVID Teacher Education - Lessons from the Use of Sustainable Tools and Strategies
12:45 – 13:00	Mr Shanavas K E	India	Targeted Education for Sustainable Development
13:00 – 13:15	Dr Veda C V	India	The Role of Lifelong Learning in Personal and Professional Growth with Special Reference to Spirituality
13:15 – 13:30	Dr Mini K S	India	Quality Management in Higher Education
13:30 – 13:45	Ms Indu Bala	India	Education for Sustainable Development for Our Planet
13:45 – 14:00	Dr Sankararao Kocherla	India	Sustainable Development and Education in India

12:00 – 14:15	**Parallel Session 1E: SECONDARY EDUCATION** *[Presentation time is 12 minutes and 3 minutes of Q&A]* Chairperson: Dr Peter Gray Rapporteurs: Mr Harsha Subhashana & Dr Minakshi Kishore		
Paper Presentations			
Time	**Name**	**Country**	**Title**
12:00 – 12:45	Dr Alexandra Okada	UK	Open Schooling for Sustainable Development to Enhance Innovation Ecosystems
	Dr Cyril Dworsky	Austria	
	Dr Maria Vicente	Netherlands	
	Dr Pavlos Koulouris	Greece	
12:45 – 13:00	Dr Cintia Rabello	Brazil	Innovative Ecosystems with Open Schooling to Support "Less Well-Represented Actors and Territories"
13:00 – 13:15	Dr Sigrid Vedel Neuhaus	Denmark	Aligning Science Education with Societal Needs and Values: *Intriguing*
13:15 – 13:30	Dr Rosina Malagrida	Catalunya/ Spain	How Can Teachers, Students and Families Collaborate with Scientists Act as Co-Researchers to Improve Covid-19 Prevention? An Open-Schooling Approach to Engage the Education Community in Current Research
13:30 – 13:45	Dr Silvar Ribeiro	Brazil	Open Schooling with Collaborative Scientific Action for Environmental Protection of Wild Animals in the Semi-Arid Northeast
13:45 – 14:00	Dr Giorgos Panselinas	Greece	Science Teachers and Researchers as a Community for Adapting, Designing and Implementing Open Schooling for Sustainable Development
14:00 – 14:15	Dr Raquel Kowalski	Brazil	RRI in an Interdisciplinary Approach: Developing High School Students' Multi-Literacies

Conference Adjourns for the Day

DAY 2: 27 August 2020 (Friday)

PLENARY: KEYNOTE		
08:00 – 08:15	Housekeeping announcements and technical briefings	
08:15 – 08:45	Chairperson: Dr Sarita Parhi Rapporteur: Dr Minakshi Kishore	
	Keynote 2: Sustainable Development and Education	Professor Stephen McKinney, University of Glasgow, UK
	Q & A Session	

08:45 – 10:00	**Parallel Session 2A: SOCIAL SCIENCES** *[Presentation time is 12 minutes and 3 minutes of Q&A]* Chairperson: Prof Mokgale Makgopa Rapporteur: Dr Mabel Zvobgo		
Paper Presentations			
Time	**Name**	**Country**	**Title**
08:45 – 09:00	Ms Bhavika Bindra	India	Paradigm Shift to Embrace Justice for Women: A Need
09:00 – 09:15	Dr Anupama Verma	India	Changing Cultural Dimensions of Indian Diaspora: A Study on Hofstede Model
09:15 – 09:30	Dr Dhanonjoy Kumar	Bangladesh	COVID -19 Upshots on Students' Health, Educational and Social Life: An Empirical Study
09:30 – 09:45	Dr Jagnyaseni Panigrahi	India	Gender Equality For Sustainable Development Goals
09:45 – 10:00	Dr Sharada Prasanna Rout	India	Disability and Discontentment: A Study of Social Exclusion in India

08:45 – 10:30	**Parallel Session 2B: SOCIAL SCIENCES** *[Presentation time is 12 minutes and 3 minutes of Q&A]* Chairperson: Dr Dazy Zarabi Rapporteur: Mrs Amanda Babalola		
Paper Presentations			
Time	**Name**	**Country**	**Title**
08:45 – 09:00	Ms Meera Swami	India	Reflections of Youth on Usage of Social Media
09:00 – 09:15	Mr Amit Kumar Das	India	Managing Factors Influencing the Construction of Road Over Bridges: A Critical Analysis
09:15 – 09:30	Mrs Praseetha M S	India	Friendzone: A Remedial Social Media Platform for Social Anxiety Disorder
09:30 – 09:45	Ms Priya	India	Cyber Bullying and Coping Mechanism Among Adolescents
09:45 – 10:00	Ms Sanchika Taneja	India	Impact of COVID-19 on Sustainable Development Goals
10:00 – 10:15	Mrs Anitha Sannakamaiah	India	A Study on "Impact of Social Isolation on Elderly and Social Inclusion of Elderly Through Social Work Intervention for Sustainable Development" with Special Reference to Omashram Oldage Home at Bangalore
10:15 – 10:30	Ms Chaitali Halder	India	School as the Messiah of Sustainable Development: A Multiple Case Study of Three Leading Rural Schools of West Bengal

08:45 – 10:15	**Parallel Session 2C: SCIENCE** *[Presentation time is 12 minutes and 3 minutes of Q&A]* Chairperson: Dr Tapati Mukherjee Rapporteur: Mr Harsha Subhashana		
Paper Presentations			
Time	**Name**	**Country**	**Title**
08:45 – 09:00	Mr Jahangeer Mohd Reshi	India	Comparative Study on Physicochemical Status and Diversity of Macrophytes and Phytoplanktons of Manasbal Lake, Kashmir, India
09:00 – 09:15	Prof Jan Apotheker	Netherlands	Special Issue of Chemistry Teacher International on Green Chemistry and Sustainable

08:45 – 09:30	**Parallel Session 2D: HEALTH & PURE SCIENCES** *[Presentation time is 12 minutes and 3 minutes of Q&A]* Chairperson: Professor Stephen McKinney Rapporteur: Dr Dolly Jackson-Sillah		
Paper Presentations			
Time	**Name**	**Country**	**Title**
08:45 – 09:00	Dr Anupam Karmakar	India	An Empirical Study of the Relationship Between Vaccination in India and Nifty Pharma Index
09:00 – 09:15	Mrs Richa Sahay	India	Motivation and Work Conditions of Healthcare Workers - A Study on COVID-19 First Wave
09:15 – 09:30	Ms Viviane Cristina Marques	Brazil	Selection for Use of Mobile Applications for Children with Autism Spectrum Disorder During Pandemic
09:30 – 10:30	**Parallel Session 2E: MANAGEMENT, MATHEMATICS & LANGUAGES** Chairperson: Professor Stephen McKinney Rapporteur: Mr Alfred Anim Agyeman		
09:30 – 09:45	Ms Divya Juneja	India	Sustainability Consciousness - A study on Attitude of Upcoming Business Leaders Towards Sustainability
09:45 – 10:00	Dr Urvashi Mishra	India	Different Applications of Trigonometric Spline Curves
10:00 – 10:15	Prof Zingiswa M M Jojo	South Africa	The Teaching of Mathematics as a Humanized and Encultured Process for Sustainable Development
10:15 – 10:30	Ms Rishika Bojwani	India	Impact of Higher Education System in Developing Entrepreneurship Skills

08:45 – 10:45	**Parallel Session 2F: HIGHER EDUCATION – ONLINE LEARNING AND FUN** *[Presentation time is 10 minutes and 5 minutes of Q&A]* Chairperson: Dr Alexandra Okada Rapporteurs: Mrs Lydia Mireku & Mr Richard Osei Asibey-Bonsu		
Paper Presentations			
Time	**Name**	**Country**	**Title**
08:45 – 09:00	Prof Kieron Sheehy	United Kingdom	Should 'Meaningful' Online Learning Experiences Be Fun for Higher Education Students in Indonesia?
09:00 – 09:15	Dr Paula Carolei	Portugal	Creative Gamification and Fun: Possibilities of Authorship, Autonomy and Collaboration

09:15 – 09:30	Dr Daniela Barros	Portugal	Higher Education in Pandemic Times: Personalization, Engagement, Autonomy and New Learning Strategies
09:30 – 09:45	Dr Klaus Schlünzen Junior	Brazil	The CCS Approach and Fun Learning: An Analysis of Research Data for Inclusion
09:45 – 10:00	Dr Luci Mello	Brazil	Learning Experience Design and Active Methods for Student Fun, Pleasure and Engagement in Online Courses
10:00 – 10:15	Dr Ana Hessel	Brazil	The Pleasure of Learning: The Vision of Complex Thinking
10:15 – 10:30	Dr Alexandra Geraldini	Brazil	Motivation, Involvement and Fun in the Online Learning Process: Perception of Undergraduate Students
10:30 – 10:45	Dr Fernando Almeida	Brazil	Algorithmization of Happiness or the Reconstruction of the Humanizing Nature of Numbers?

Health Break (30 minutes except for Session 2F, 15 minutes)

PLENARY: SPECIAL SESSION		
	Chairperson: Dr Peter Gray Rapporteur: Dr Minakshi Kishore	
11:00 – 11:30	Special Lecture	H.E. Dr Abdulla Naseer, Minister of State for Environment, Ministry of Environment, Climate Change and Technology, Maldives
	Q & A Session	

VALEDICTORY SESSION		
11:30 – 11:35	House Keeping Announcements	MC
11:35 – 11:45	Introduction to the Valedictory Session	Dr Sarita Parhi, Principal, LSME
11:45 – 11:50	Recognition of the VIP Guests	Mr Hassan Shifau
11:50 – 12:00	Overview of the Conference Proceedings	Professor Stephen McKinney, Conference Chairperson
12:00 – 12:05	Announcement of the 9th LSME International Research Conference	Dr Ravi Kumar, Conference Convener
12:05 – 12:10	Remarks by a Member of the Conference Committee	Dr Peter Gray, NTNU, Norway
12:10 – 12:20	Special Remarks by Guest of Honour	Mohamed Mahid Shareef, DVC of Islamic University of Maldives
12:20 – 12:35	Valedictory Speech by the Chief Guest	H.E Dr Ibrahim Hassan, Minister of Higher Education, Maldives
12:35 – 12:40	Experiences of the Conference	Rishika Bhojwani
12:40 – 12:45	Vote of Thanks	Dr Tapati Mukherjee
12:45	Group Photo Closing of the Conference	MC

DIGNITARIES & FACILITATORS

Chief Guest		
The Lord Sheikh	House of Lords	UK
Guests of Honour		
Professor Petra Molthan-Hill	Nottingham Business School, Nottingham Trent University	UK
H.E Dr Durga Bahadur Subedi	Chief of Protocol, Government of Nepal	UK
Professor Rajan Welukar	Vice-Chancellor, Auro University	India
Keynote Speakers		
Professor Petra Molthan-Hill	Nottingham Business School, Nottingham Trent University	UK
Professor Stephen McKinney	University of Glasgow	UK
Guest Lecture		
H.E Dr Abdulla Naseer	Minister of State for Environment, Ministry of Environment, Climate Change and Technology	Maldives
Peer Review Group		
Professor Stephen McKinney	University of Glasgow	UK
Dr Peter Gray	NTNU	Norway
Martin McAreavey	University of Bolton	UK
Dr Andrew Chimenya	University of Bolton	UK
Andrew Kenny	University of Bolton	UK
Dr Alexandra Okada	Open University	UK
Irfan Chhadat	University of Bolton	UK
Dr Tapati Mukherjee	S.K Rai Degree College of Commerce	India
Dr Gulshan Jawa	Sant Longowal Institute of Engineering & Technology, Punjab	India
Dr Dhiraj Sharma	SBBS University, Punjab	India
Chairpersons		
Professor Stephen McKinney	University of Glasgow	UK
Martin McAreavey	University of Bolton	UK
Dr Gulshan Jawa	Sant Longowal Institute of Engineering & Technology, Punjab	India
Professor Zingiswa M M Jojo	University of South Africa	South Africa
Dr Peter Gray	NTNU	Norway
Dr Sarita Parhi	London School of Management Education	UK
Professor Mokgale Makgopa	University of Venda	South Africa
Dr Dazy Zarabi	Panjab University, Chandigarh	India
Dr Tapati Mukherjee	S.K Rai Degree College of Commerce	India
Dr Alexandra Okada	Open University	UK
Rapporteurs		
Dr Dolly Jackson-Sillah	London School of Management Education	UK
Mrs Lydia Mireku	London School of Management Education	UK
Mr Jose Kattady	London School of Management Education	UK
Dr Mabel Zvobgo	London School of Management Education	UK
Mr Alfred Anim Agyeman	London School of Management Education	UK
Mr Richard Osei Asibey-Bonsu	London School of Management Education	UK
Mr Harsha Subhashana	London School of Management Education	UK
Dr Minakshi Kishore	London School of Management Education	UK
Mrs Amanda Babalola	London School of Management Education	UK

DELEGATES AND PAPERS PRESENTED

	Name	Title of the Paper	Country
1	Dr Alexandra Geraldini	Motivation, Involvement and Fun in the Online Learning Process: Perception of Undergraduate Students	Brazil
2	Dr Alexandra Okada	Open Schooling for Sustainable Development to Enhance Innovation Ecosystems	UK
3	Dr Amit Joshi	School is Not Out for teachers: Contribution of Continuing Education on the Career Growth and Development of Teachers in Higher Education Institutions	India
4	Dr Ana Maria Di Grado Hessel	The Pleasure of Learning: The Vision of Complex Thinking	Brazil
5	Dr Anupam Karmakar	An Empirical Study of the Relationship Between Vaccination in India and Nifty Pharma Index	India
6	Dr Anupama Verma	Changing Cultural Dimensions of Indian Diaspora: A Study on Hofstede Model	India
7	Dr Chandrashekaran Praveen	Pragmatic Solutions For Post Covid Teacher Education - Lessons from the Use of Sustainable Tools and Strategies	India
8	Dr Cintia Rabello	Innovative ecosystems with Open Schooling to Support Less Well-Represented Actors and Territories	Brazil
9	Dr Daniela Melare Vieira Barros	Higher Education in Pandemic Times: Personalization, Engagement, Autonomy and New Learning Strategies	Portugal
10	Dr Dhanonjoy Kumar	COVID -19 Upshots on Students' Health, Educational and Social Life: An Empirical Study	Bangladesh
11	Dr Giorgos Panselinas	Science teachers and researchers as a Community for Adapting, Designing and Implementing Open Schooling for Sustainable Development	Greece
12	Dr Jagnyaseni Panigrahi	Gender Equality For Sustainable Development Goals	India
13	Dr Rosina Malagrida	How Can Teachers, Students and Families Collaborate with Scientists Act as Co-Researchers to Improve Covid-19 Prevention? An Open-Schooling Approach to Engage the Education Community in Current Research	Spain
14	Dr Klaus Schlunzen Junior	The CCS Approach and Fun Learning: An Analysis of Research Data for Inclusion	Brazil
15	Dr Lt S Ravibalan	Educational Sustainability – A Historically Linear Perspective and its Techno Fads in Reality.	India
16	Dr Madhumita Chanda	Treating the Root System: Introduction of Sustainability in School	India
17	Dr Maria da Graca Moreira D Silva	Algorithmization of Happiness or the Reconstruction of the Humanizing Nature of Numbers?	Brazil

18	Dr Mayurakshee Gangopadhyay	Online Education: Participation of Female Students and Gender Equality	India
19	Dr Mini K S	Quality Management in Higher Education	India
20	Dr Minisha Gupta	Implementing Ed-Tech Model in Indian Institutions from Teachers' Perspective: A Conceptual Framework	Oman
21	Dr Monika Chopra	Heutagogy: An Approach to Empower Learners	India
22	Dr Raquel P Glitz Kowalski	RRI in an Interdisciplinary Approach: Developing Secondary School Students' Multiliteracies	Brazil
23	Dr Rimjim Borah	How to Achieve Sustainable Development Goal 4: India's Context with New Education Policy 2020	India
24	Dr Rini E Stephen	Pedagogic Calibration for Sustainable Living: Empirics from Evidence-Based Reasoning Strategy (EBRS) in Biology	India
25	Dr Sankararao Kocherla	Sustainable Development and Education in India	India
26	Dr Sharda Prasanna Rout	Disability and Discontentment: A Study of Social Exclusion in India	India
27	Dr Shelly Aggarwal	Revamping E-Learning Platforms: Catering Life Long Learning Amid Pandemic	India
28	Dr Sigrid Vedel Neuhaus	Aligning Science Education with Societal Needs and Values: Intriguing students' interest in STEM Through Participatory Methods	Denmark
29	Dr Tapati Mukherjee	Targeted Education for Sustainable Development	India
30	Dr Urvashi Mishra	Different Applications of Trigonometric Spline Curves	India
31	Dr Veda C V	The Role of Lifelong Learning in Personal and Professional Growth with Special Reference to Spirituality	India
32	Jahangeer Mohd Reshi	Comparative Study on Physicochemical Status and Diversity of Macrophytes and Phytoplanktons of Manasbal Lake, Kashmir, India	India
33	Jan Apotheker	Special Issue of Chemistry Teacher International on Green Chemistry and Sustainable	Netherlands
34	Kieron Sheehy	Should 'Meaningful' Online Learning Experiences be Fun for Higher Education Students in Indonesia?	United Kingdom
35	Mr Amit Kumar Das	Managing Factors Influencing the Construction of Road Over Bridges; A Critical Analysis	India
36	Ms Indu Bala	Education for Sustainable Development for Our Planet	India
37	Mr Ashok Kumar Singh	Targeted Education for Sustainable Development in Primary Education	India
38	Mr Rampravesh Ramjisingh	Opinion of the Stakeholder About the No Detention Policy in Secondary Students	India
39	Mr Samuel Abiodun Alara	The Role of Education in COVID-19 Safety Awareness Among Building Construction Operatives in Adamawa – Nigeria	Nigeria

40	Mr Styne Joseph	Sustainable Development Through Environmentally Responsible Behaviour: Role of Education	India
41	Mr Vinay Lautre	Privatization as a Socio-Economical policy and its Impact on Teacher Education	India
42	Mrs Anitha Sannakamaiah	A Study on "Impact of Social Isolation on Elderly and Social Inclusion of Elderly through Social Work Intervention for Sustainable Development" with Special Reference to Omashram Oldage Home at Bangalore	India
43	Mrs Antara Bose	Socio-Demographic Determinants Affecting Education and the Nutritional Status among School Children and Adolescents During COVID-19: In Context to India	India
44	Mrs K Sindhu Bhavani	Impact of Digitalized Learning in the Field of Education Among Children with Learning Disabilities in Pandemic Situation: Case Study	India
45	Mrs Luci Ferraz de Mello	Learning Experience Design and Active Methods for Student Fun, Pleasure and Engagement in Online Courses	Brazil
46	Mrs Paula Carolei	Creative Gamification and Fun: Possibilities of Authorship, Autonomy and Collaboration.	Brazil
47	Mrs Praseetha M S	Friendzone : A Remedial Social Media Platform for Social Anxiety Disorder	India
48	Mrs Richa Sahay	Motivation and Work Conditions of Healthcare Workers - A Study on COVID-19 First Wave	India
49	Mrs Vimla Choudhary	Democratic Education and Sustainable Development	India
50	Ms Anusree Bose	Gauging Financial Literacy - A Study on College Teachers of Kolkata	India
51	Ms Azhanuo Peki	Vocational Education and ICT in Colleges: A Prospect on Livelihood Promotion for Rural Districts in Nagaland	India
52	Ms Bhavika Bindra	Paradigm Shift to Embrace Justice for Women: A Need	India
53	Ms Chaitali Halder	School as the Messiah of Sustainable Development: A Multiple Case Study of Three Leading Rural Schools of West Bengal	India
54	Ms Divya Juneja	Sustainability Consciousness - A study on Attitude of Upcoming Business Leaders Towards Sustainability	India
55	Ms Jayeeta Dutta	Higher Education in Maharashtra: Today and Paradigm Shifts for New Pathways	India
56	Ms Komal Gagare	Impact of COVID- 19 on Skills and Attitude of School Teachers in Relation to Teaching Learning Resources	India
57	Ms Marina Vianna	The Use of Didactic Strategies and Technologies to Support Remote and Distance Learning	Brazil
58	Ms Meera Swami	Reflections of Youth on Usage of Social Media	India
59	Ms Parminder	Impact of COVID Crises on School Education in India	India

60	Ms Priya	Cyber Bullying and Coping Mechanism Among Adolescents	India
61	Ms R Subhashini Imran	Sustainable Education in Reading: An Effective Learning Through Two-Fold Text	India
62	Ms Rishika Bojwani	Impact of Higher Education System in Developing Entrepreneurship Skills	India
63	Ms Sanchika Taneja	Impact of COVID-19 on Sustainable Development Goals	India
64	Ms Viviane Cristina Marques	Selection for Use of Mobile Applications for Children with Autism Spectrum Disorder During Pandemic	Brazil
65	Prof Silvar Ferreira Ribeiro	Open Schooling with Collaborative Scientific Action for Environmental Protection of Wild Animals in the Semi-Arid Northeast	Brazil
66	Prof Zingiswa M M Jojo	The Teaching of Mathematics as a Humanized and Encultured Process for Sustainable Development	South Africa
67	Shanavas K E	Targeted Education for Sustainable Development	India

LIST OF PARTICIPANTS

Adamu Ado Abubakar	Dr Urvashi Mishra
Amit Kumar Das	Dr Veda C V
Ananta Halder	Fathimath Thaufeega
Anisha Koley	Fernando Almeida
Anitha Sannakamaiah	Gagandeep Singh Salhan
Antara Bose	Indu Bala
Anusree Bose	Jahangeer Mohd Reshi
Ashok Kumar Singh	Prof Jan Apotheker
Azhanuo Peki	Jayeeta Dutta
B Bhuvana	Joharel Escobia
Bhavika Bindra	K Sindhu Bhavani
Chaitali Halder	Kanchan Godara Bhakar
Dheeba Moosa	Karlene Campos
Divya Juneja	Kieron Sheehey
Dr Alexandra Geraldini	Komal Gagare
Dr Alexandra Okada	Korikana Appaji
Dr Amit Joshi	Luci Ferraz de Mello
Dr Ana Maria Di Grado Hessel	Madhab Ghosh
Dr Anupam Karmakar	Mandeep Kaur
Dr Anupama Verma	Marina Vianna
Dr Chandrashekaran Praveen	Mariyam Rasheeda
Dr Cintia Rebello	Martin McAreavey
Dr Daniela Melare Vieira Barros	Md Saiful Islam

Dr Dazy Zarabi	Momathias
Dr Dhanonjoy Kumar	Nupur
Dr Giorgos Panselinas	Parminder
Dr Jagnyaseni Panigrahi	Paula Carolei
Dr Janaki V	Piyasa Koley
Dr Klaus Schlunzen Junior	Praseetha M S
Dr Kuldeep Kaur Juneja	Priya
Dr Lt S Ravibalan	Prof Abhay Jaiswal
Dr Madhumita Chanda	Prof Anand R Deshpande
Dr Mamta Chandgothia	Prof Zingiswa M M Jojo
Dr Maria da Graca Moreira D Silva	Professor Mokgale Makgopa
Dr Mayurakshee Gangopadhyay	R Subhashini Imran
Dr Miah Md Rashiduzzaman	Rachana Singh
Dr Mini K S	Rampravesh Ramjisingh
Dr Minisha Gupta	Ravi Kaushal
Dr Monika Chopra	Richa Sahay
Dr Parmvir Sandhu	Rishika Bojwani
Dr Raquel P Glitz Kowalski	Samriti Mahajan
Dr Rimjim Borah	Samuel Abiodun Alara
Dr Rini E Stephen	Sanchika Taneja
Dr Roshna V Gopal	Sanjay Prasad
Dr Rosina Malagrida	Sanjoy Ghosh
Dr Sankararao Kocherla	Shanavas K E
Dr Sharada Prasanna Rout	Silvar Ferreira Ribeiro
Dr Shelly Aggarwal	Styne Joseph
Dr Sigrid Vedel Neuhaus	Umama Haque
Dr Sinshupa	Vimla Choudhary
Dr Surinder Mahi	Vinay Lautre
Meera Swami	Viviane Cristina Marques
Mhalevolie	

KEYNOTE ADDRESS

'SUSTAINABLE DEVELOPMENT AND EDUCATION'
BY PROFESSOR STEPHEN J. MCKINNEY, SCHOOL OF EDUCATION
UNIVERSITY OF GLASGOW

Abstract

The keynote will focus on sustainable development and education. This presentation will initially address the rise of a 'global education' in the contemporary world. This will involve a concise examination of some of the contrasting configurations of 'global education', including the comparisons in performance in International Large-scale Assessments and initiatives such as global citizenship, development education and sustainable development and education. The keynote will then position sustainable development and education within the context of the 2030 Agenda for Sustainable Development and the Sustainable Goals. The United Nations is quite clear that there are three dimensions of sustainable development: the economic, social and environmental. This will be followed by a focus on one aspect of sustainable development and education: environmental issues, and a discussion of the claims that sustainable development and education needs to be transformational.

Introduction

This paper will focus on sustainable development and education. This paper will be in three parts. First, the paper will address the rise of the concept of 'global education' in the contemporary world. This will involve a concise examination of some of the different configurations of 'global education', including the comparisons in performance in International Large-scale Assessments, large-scale OECD PISA Tests (Programme for International Student Assessment). This will be contrasted with initiatives such as global citizenship, development education and sustainable development and education and these will be briefly explained. Second, the paper will then position sustainable development and education within the context of the 2030 Agenda for Sustainable Development and the Sustainable Goals. The United Nations is quite clear that there are three dimensions of sustainable development: the economic, social and environmental, and there are major themes of people, planet, prosperity, peace and partnership. Third, there will be a focus on one aspect of sustainable development and education: environmental issues, and a discussion of the claims that sustainable development and education needs to be transformational.

Part 1 – Global Education

The enforced restrictions and lockdowns that have been consequences of the global pandemic have prompted research into the ways in which educational systems, lecturers, teachers, pupils and parents have responded to the challenges of adopting or adapting different models of learning and teaching. The restrictions and lockdowns have affected school education, Further Education and Higher Education. There have been many studies about the challenges of moves to online learning: the issues in technology, availability of devices, connectivity and upskilling. (Winter et al., 2021; Yates et. al., 2021). There are also many studies on mixed modes or hybrid models of learning and teaching (Unesco, 2020; Weissmann et al., 2021). There are concerns that the education of the poor, the most disadvantaged and the most vulnerable children and young people has been seriously disrupted (McKinney, 2020; Chanduvi et.al., 2020). This period of time has also provided some space to reflect on how global education is understood in education.

One of the features of contemporary education in many parts of the world is that it has acquired what can be termed a 'global character' (O'Flaherty and Liddy, 2018). This is sometimes known as 'global education' and it was becoming increasingly prominent in school education and in Higher Education in the pre-Covid-19 era (Education Services Australia, 2012). Global education in schools can refer to comparisons in performance in International Large-scale assessments such as the large-scale OECD PISA Tests (Programme for International Student Assessment) which commenced in 2000 (Sjøberg, 2019). The OECD proposes that the Pisa Tests help educational systems assess the key skills and capabilities of young people and can help improve the quality of the learning and teaching process (Schleicher, 2019). There are, of course, serious reservations about the short term and long-term value of such tests and the over emphasis on what is measurable in education. These reservations include concerns about the sample, the levels of participation, the translation of the test items and the application of the test across different countries and, especially, to non-Western countries (Hopfenbeck et. al., 2017).

Global education can also refer to initiatives such as Global Citizenship, Development Education and Sustainable Development and Education. These initiatives are closely interconnected, though there are some differences in focus. Global Citizenship supports learners to become more aware of the wider world and their position in this world (Oxfam 2021). It aims to engender a commitment to peace, human rights and sustainable development (Unesco, 2021a). Development Education seeks to educate for a just and sustainable world and is considered by some to be an outdated term (Bourn, 2014). Sustainable Development is described as 'the overarching paradigm adopted by the United Nations' and this is discussed in more detail in part two (Unesco, 2021b).

Part 2 - Sustainable development and the United Nations Sustainable Goals

There are two initial points that require clarification in this discussion of sustainable development. The first point refers to the difference between sustainable development and sustainability. Unesco provides the following helpful explanation:

> *Sustainability is often thought of as a long-term goal (i.e., a more sustainable world), while sustainable development refers to the many processes and pathways to achieve it (e.g., sustainable agriculture and forestry, sustainable production and consumption, good government, research and technology transfer, education and training, etc.)* (Unesco, 2021b).

The second point refers to the scope of sustainable development. It is frequently assumed that sustainable development is primarily focussed on environmental issues. This is understandable as environmental issues, such as air pollution, global warming and climate change, deforestation, ocean acidification and the depletion of natural resources are pressing in the contemporary world (The Blue and Green Journey, 2021). The attention of the world at this time is directed towards COP26 (UN Climate Change Conference of the Parties) to be held in Glasgow in October and November 2021 (UN Climate Change Conference, UK 2021). The United Nations, however, has a much broader vision of sustainable development.

It is instructive to examine the 2030 Agenda for Sustainable Development more closely to understand the aims and scope of the vision of sustainable development that has been evolved by the United Nations. The 2030 Agenda for Sustainable Development came into effect on the 1st of January 2016. The 2030 Agenda continued the work of the preceding agendas which included the Millennial Development Goals (Sustainable Development Goals Fund, 2021). The United Nations is quite clear in the 2030 Agenda that there are three dimensions of sustainable

development: the economic, social and environmental. The areas of focus are the major themes of People, Planet, Prosperity, Peace and Partnership.

The three themes are interrelated, and the 2030 Agenda for Sustainable Development recognises that the greatest global challenge is eradicating poverty in all its forms and dimensions (United Nations 2021). This will include eradicating extreme hunger and the aim that people can experience food security and have access to 'sufficient, safe, affordable and nutritious' food. The theme of 'People' includes equality in its different forms, highlighting gender equality and the importance of education. The theme of 'Planet' is about protecting the planet and ensuring 'sustainable consumption and production', management of natural resources and 'urgent action on climate change'. The ambition in 'Prosperity' is that all people can enjoy 'prosperous and fulfilling lives' but also that 'economic, social and technological progress occurs in harmony with nature'. In regard to 'Peace', the 2030 Agenda aims for 'peaceful, just and inclusive societies' that free people from 'fear and violence'. Finally, 'Partnership' refers to the ambition to create a revitalised Global Partnership for Sustainable Development.

This is a very broad vision and one that is very inclusive. The vision is to improve *our* world and the lives of *all* people rather than improve *my* world for *my* people. This does not preclude different priorities in different parts of the world, according to local needs. The United Nations rightly acknowledges that the 2030 Agenda is a 'supremely ambitious and transformational vision'.

Part 3 - Sustainable development and education: environmental issues

This final part is focused on sustainable development and education and, in particular, environmental issues. There are some key underlying principles to sustainable development and education: there is an affirmation of the *connectedness* within the world, the need to adopt *interdisciplinary* approaches and the aim for the *transformation* of the individual and the world. I wish to draw out three main points in this final part, focusing on education and the environment, an Interdisciplinary approach: and the transformative approach.

Education and the Environment

There is useful comparison to be drawn between education *in* the environment; education *about* the environment and education *for* the environment (Davis, 2009, p.5). Education *in* the environment refers to the relationship children have with nature. Education *about* the environment discusses the understanding children have about environmental topics. Education *for* the environment explores the learning and capabilities of children in responding to issues such as the conservation of water or energy. These can be approached as integrated in an iterative process, as a cycle of: *Relationship*, *Understanding* and *Response*. Questions can be posed about how children interact with the environment to gain understanding and move towards a response (Tan and So, 2019).

Outdoor Learning can provide excellent opportunities for environmental learning. Outdoor learning experiences have 'two core benefits': sensory learning and authentic learning and real-life problem solving' (Tan and So, 2019). Core benefit one: outdoor learning is an experiential learning process that involves the use of all of the senses – sight, sound, taste, smell and touch. Core benefit two: outdoor learning provides:

> *…the rich affordances of the outdoor environment present practical, experiential, and authentic learning opportunities that are absent from the classic classroom. In outdoor learning, learners assume an active role in constructing information from the environment where the "direct experience with concrete phenomena and materials" (Orion, 1993, p. 325) becomes key in the meaning-making process.*

Unfortunately, the world-wide spread of Covid-19 and the series of consequent restrictions and lockdowns have had a serious impact on organised outdoor learning (Institute for Outdoor Learning, 2021).

An Interdisciplinary Approach

If we are going to examine sustainable development and education with a focus on environmental issues, then, we need to adopt an interdisciplinary approach (Warburton, 2003).

This is challenging and involves an openness to the recognition of, and communication with, other disciplines (McKinney et. al. 2014). It means rejecting dismissive stereotypes and notions of discipline superiority. The distinctions made between environmental sciences and environmental studies, for example, are not very helpful as they are both essentially interdisciplinary (Focht and Abramson, 2009). An interdisciplinary approach is complex and requires a concerted effort to initiate and sustain the approach and avoid the impulses to recover a discipline-based approach (Warburton, 2003, p.44).

The Transformative Approach

Let us return to the United Nations statement that the 2030 Agenda is a 'supremely ambitious and transformational vision'. Arguably one of the aims of sustainable development and education is the transformation of the individual to help transform the world. One of the keys to this is the pedagogy that is adopted in sustainable development and education. There are different ways to approach the pedagogy of education for sustainable development in schools (Bonnett, 2002, 10). One approach is that:

> *Education can be a vehicle for actively promoting positive attitudes and patterns of behaviour that reflect the requirements of sustainable development.*

This seems to be advocating a transmissive mode of learning and teaching – a mode that seeks to instill attitudes and behaviours that are coherent with pre-determined learning requirements. The second is an approach that:

> *Assumes schools best further sustainable development by encouraging ongoing pupil exploration and engagement with environmental issues in which the promptings of their own rationality are followed*.

This approach is an ongoing interaction that may be initiated in school but is designed to prompt pupils to a Relationship, Understanding and Response that becomes a lifelong journey of learning beyond school and, in that sense, is transformational. It is this creativity in pedagogy and deeper understanding of the impact of ways of learning that will help to attain the sustainable development goals and engender an Inner transformation (Wamsler, 2020)

> *Inner transformation, as used here, describes changes related to people's mindsets, which are made up of their values, beliefs, worldviews and associated cognitive/emotional capacities (such as mindfulness, self-awareness, compassion and empathy), and this involves changes in people's consciousness.*

Bonnett (2002) argues that is to create a 'frame of mind' and this is not a change that will come through policy. Nor will it be developed through transmissive modes of learning and teaching. The most appropriate pedagogies in sustainable development and education are the ones that challenge our understanding of ourselves, of nature and our understanding of our relationship with nature (Bonnet, 2002).

Concluding Remarks

The 2030 Agenda for Sustainable Development is indeed a 'supremely ambitious and transformational vision'. The pandemic has helped, perhaps ironically, to create a deeper sense of interconnectedness, of belonging to a global community, of individual and collective responsibility for the world we share. The Sustainable Development Goals include educational goals and yet, in a sense, one of the key aims of all of the Sustainable Development Goals is education. The way forward is individual and collective responsibility for sustainable development to attain sustainability and the transformation of the world.

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KEYNOTE BY PROFESSOR PETRA MOLTHAN-HILL, NOTTINGHAM BUSINESS SCHOOL, NOTTINGHAM TRENT UNIVERSITY, UK

In this keynote, Professor Petra talked about future scenarios with regards to climate change and highlight various climate solutions to be implemented. She offered a framework for differentiating between climate change science education, climate change mitigation education and climate change adaptation education. A special focus was on our Carbon Literacy Training, which we designed for business schools and universities inspired by a training in the television sector. Some other initiatives to engage students in curricular and extracurricular activities were also outlined. Throughout the whole presentation she highlighted possibilities for future research.

RAPPORTEURS' REPORTS

TITLE: HIGH IMPACT CLIMATE SOLUTIONS: WE CAN DO IT!

PROFESSOR PETRA MOLTHAN-HILL (PROFESSOR PETRA MOLTHAN-HILL, NOTTINGHAM BUSINESS SCHOOL, NOTTINGHAM TRENT UNIVERSITY, UK)

RAPPORTEUR: DR DOLLY JACKSON-SILLAH

Professor Petra Molthan-Hill's keynote address highlighted various climate solutions and Carbon Literacy training. This insightful address also shed more light on the differences between Climate change science Education, Climate change Mitigation Education and Climate Change Adaptation Education. The talk started with the introduction of En-ROADS, an innovative simulation model with information on the current trajectory for greenhouse gas emissions and state of the global sources of primary energy consumption, with the aimed of accessing the impact of climate solutions by changing specific parameters to generate climate scenarios for the future. The model is freely available online via https://en-roads.climateinteractive.org/scenario and accessible to general public.

Another innovative idea presented was 'Green Curtains', a concept that originated from Japan which involves the covering of outer parts of buildings with plants (particularly creeping plants) to lower indoor temperatures, save energy, promote healthy diets and reduce pollution. This idea has been implemented in over 80% of cities in Japan.

The speaker also introduced case studies from Columbia (Ciclovia Bogota) in which about 75miles of roads in Bogota is closed to cars one day per week to allow cycling and walking. This does not only reduce CO_2 emissions but also provides added benefits to the general population in terms of physical activity and reduction in noise levels.

'The flower framework: Petals' is another interactive tool that shows how the introduction of climate solutions also have other benefits such as on health and wellbeing, Jobs and Assets, Energy Industry and Mobility, Connections, Resilience and food & water. These additional benefits are presented in a flower petal illustration which also addresses whether the benefits affect the marginalized in society or the population at large.

The talk delved into CO2 emissions and the emission of other toxic compounds in every aspect of our daily activities which have a warming effect on the climate. These compounds are Sulphur Hexafluoride, Hydrofluorocarbons, Nitrous oxides and perfluorocarbons, which are all referred to as CO2 equivalents because they exert a similar effect on our planet. She stressed how enormous the carbon footprint is for the use of air-conditioners in comparison to coal, gas and refrigeration.

She introduced her Carbon Literacy training inspired by the TV programme Coronation street which involved all the ITV production crew in carbon literacy training. A similar model has been used for BBC staff as well and has been adapted for the training of Business School students in Nottingham Trent University.

The talk concluded with an explanation of Climate Change Science Education involving acquisition of knowledge of the broad scientific concepts and processes in relation to climate change building a foundation for understanding how our lives are impacted by climate change and what we can do to slow or reverse changes. On the other hand, the Climate Change Mitigation education teaches students how to reduce carbon emissions while Climate Change Adaptation training develops the right values and skills required for individuals the make the right choices in minimizing the use of natural resources and to reduce waste and pollution and rethink the way we live while considering the development of new solutions.

Discussions focused on the impact of corporations on climate change where industries contribute to the majority of all emissions since climate change was officially recognized and yet they are reluctant to improve on their

carbon footprint due to the financial implication. Participants were urged however to do their best at the individual level which we continue to drive policy change from governments to regulate activities of industries.

DAY 1 – PARALLEL SESSIONS 1A: EDUCATION

NAME OF RAPPORTEUR: LYDIA MIREKU

TITLE OF THE PRESENTATION: SCHOOL IS NOT OUT FOR TEACHERS: CONTRIBUTION OF CONTINUING EDUCATION ON THE CAREER GROWTH AND DEVELOPMENT OF TEACHERS IN HIGHER EDUCATION INSTITUTIONS

NAME OF PRESENTER: DR AMIT JOSHI

1. Summary of the main characteristics of the paper focusing on the aims, method, findings and conclusion

Dr Amit introduced the paper by discussing the importance of continuing education through promotional appraisals, professional development, personal development and career transition. In an exploratory research approach, the author conducted a survey of 315 randomly sampled Teachers working in 13 private universities in Uttarakhand to ascertain their views on the importance of continuing education and factors which influence continuous education among teachers. The self-administered questionnaires also identified the impact of continuing education on career growth and development. The factors examined were financial investment, time required for completing courses, employment opportunities, acquiring new knowledge, professional and personal growth. Factor Analysis was conducted using SPSS. The findings indicated factors like financial support, time for completing the course, better job opportunities, and enhancement of knowledge, skills, and abilities play an important role among the teachers to influence their choice of continuing education in Higher education institutions. Job opportunities were the major determinant of continuing education and continuing education had a positive impact on career growth and development and help teachers to clımb the career ladder. Hence higher education institutions which provide time and financial support for continuing education make teachers loyal and committed to their organization. It was also stated that teacher's personal intent on increasing knowledge, skills, abilities, and looking for better employment opportunities also motivate them for continuing education. It was further concluded that continuing education has a positive impact on career growth and development of teachers, it helps the teachers to explore better career opportunities, provides job security, salary increment, and promotion which contributes to their professional growth and personality development including the development of interpersonal and technical skills and inculcates self-confidence. Apart from individuals sharing their personal experiences there were no further questions or comments.

TITLE OF THE PRESENTATION: SOCIO-DEMOGRAPHIC DETERMINANTS AFFECTING EDUCATION AND THE NUTRITIONAL STATUS AMONG SCHOOL CHILDREN AND ADOLESCENTS DURING COVID-19: IN CONTEXT TO INDIA

NAME OF PRESENTER: MRS ANTARA BOSE

Mrs Antara Bose introduced her research by giving the overview of the socio-demographic determinants of the COVID19 outbreak from December 2019 to date. She highlighted the effects on education and nutrition and considered two dimensional paths which were cultural-centred and organisational-centred. The outbreak of Covid-19 according Dr Bose, has affected the poor and the marginalized section of the society which unevenly includes the minorities and most vulnerable section of the society which includes the children, adolescents and women. She mentioned how the lockdown had changed the economic pattern of both the low and middle-income countries and increased stress, mental disorders, anxiety, depressions, anger and distress.

She discussed the consequences of the outbreak including malnutrition and considered the need to tackle malnutrition among children and the growing adolescents, by investment in maternal and child nutrition. The early detection and treatment of child wasting should be activated so that the ongoing pandemic should not affect the malnutrition status of children. Vulnerable households were particularly affected as they depended on meal schemes provided through the school authorities which they no longer have due to school closure. Although schools and colleges are closed, meals provided in schools in India should be safeguarded and access to nutritious diet should be available. Malnutrition was categorised with BMI index of children and Adolescents. The relationship between healthy diet and academic performance was also discussed, highlighting how poor diet in early childhood lowers the performance level at school and less educational attainment decreases the occupational opportunities as well as lowers the socio-economic status.

It was further stressed that COVID 19 outbreak has shifted the education system from face to face to online learning where children and the adolescence use electronic gadgets to study from home for hours which has affected the lifestyle pattern of small children and adolescence and which in turn had affected their learning abilities.

The inter-relationship between nutrition and education was also emphasised. She reviewed how various studies had showed relation between socio-demographic factors and the nutritional intake where education serves as one of the criteria which determines influence of both the quality and the quantity of food choice. She said, education among the household levels helps to attain better occupational structure which directly increases the income of the family, leading to the access to proper nutrition. It was also stressed that increase in malnutrition decrease the cognitive development because brain development takes place during the early childhood phase and reviews had shown that school-age children development in cognitive growth are interlinked with essential nutrition

It was concluded that adequate nutrition strengthens the immune system, hence well balanced diet should be maintained to overcome chronic diseases and further stimulate the body so successful interventions in nutritional programmes should be applied in educational settings for appropriate growth and development of children to improve their cognitive processes even during the ongoing pandemic.

The following recommendations were made by the presenter

- Nutritious and affordable diet safeguards and promotes the vulnerable section of society
- nutritious meal for the children mainly in government schools should be encouraged and fully shifted to home delivery mode. Nutrition-rich food such as fruits, lenticels, milk and eggs should be included in the mid-day meal scheme for the children.
- The continuation of meal delivery and additional support should be provided to all the states and union territories.

- Proper hygienic practice should be maintained even if the schools are closed. Proper guidance and counselling system should be provided by the teachers as well as the Anganwadi workers.

TITLE OF THE PRESENTATION: GAUGING FINANCIAL LITERACY - A STUDY ON COLLEGE TEACHERS OF KOLKATA

NAME OF PRESENTER: MS ANUSREE BOSE

Ms Anusree Bose introduced the research by explaining the importance of Financial Literacy as one of the leading business markets in India. The literature was reviewed by the presenter under the following 4 categories: Digital Financial Literacy & Financial inclusion, Digital Payment & Societal Issue, Financial Literacy & Financial Fraud and Consequences of Digital Fraud on e-banking & e-consumerization.

The objectives of the research were to estimate the financial literacy of teachers on the basis of age, to compare the level of financial literacy on the basis of department and to assimilate the level of financial literacy on the basis of gender.

For the Research Methodology, Ms Anusree informed the audience that OECD/INEF toolkit was used to produce a structured google questionnaire to conduct a survey of 177 teachers of various departments of selected colleges in Kolkata. The toolkit was used to measure financial literacy & financial inclusion -where Financial Literacy was measured on the basis of Financial Attitude, Financial Behaviour & Financial Knowledge.

The findings suggested that there is no significant difference among the various educational departments and gender in relation to the financial literacy. She concluded with a summary that though the percentage of the qualified respondents relating to the financial attitude is moderate with respect to the financial behaviour & financial knowledge, these percentages are quiet low. She added that most of the qualified respondents belong to the age group of 20 to 29 years & on the other hand the qualifying percentage in respect to the financial literacy is lowest in the age group of 50 & above.

The question, “how do you compare the worlds state of financial literacy to that of India was asked?” and the researcher answered that the financial literacy in India is low and it is important to educate people on financial wellbeing to help improve on their financial literacy. It was further highlighted that although academic education is important, financial literacy is equally important, therefore, education in this area has to be emphasised.

TITLE OF THE PRESENTATION: TARGETED EDUCATION FOR SUSTAINABLE DEVELOPMENT IN PRIMARY EDUCATION

NAME OF PRESENTER: MR ASHOK KUMAR SINGH

Mr Ashok Kumar Singh started the presentation by defining sustainable development, highlighting the United Nations' involvement via the UNESCO's complementary approach. The UN Convention on the Rights of the child (1989); all children have a right to education and agenda 21 was discussed, emphasising that the action plan for sustainable development drawn up at the Earth Summit in Rio (1992) set the promotion of basic primary education as its first priority. The research problem was to compare the sustainable habits among the trained and untrained primary school level students based on the hypothesis that inculcation of sustainable habits at primary school level leads to effective and efficient sustainable habits among students. The participants were 20 students each of grades 1 to 5 taken from one school adding up to a total of 100 students and 20 students each of grades 1, to 5, adding up to 100 were taken from another school. One school received the training on sustainable development while the other did not. Using observation, the researchers collected both qualitative and quantitative data using questionnaires. Data collected including switching off lights and fans, plantation and care, cleanliness and orderliness etc. using questionnaires, information was collected from 25 primary school teachers to collect data relating to the effectiveness and efficiency of the performance of sustainable habits among the primary school level students.

The study indicated that the 99% of the trained primary level students perform sustainable behaviour in an effective manner as opposed to only 4% untrained primary level students. It was concluded that the trained primary school level students acquire sustainable habits faster and follow the same. Overall, the analysis revealed a statistically significant difference in the sustainable behaviour of trained and untrained primary school level students.

The researcher concluded by quoting that "Education is the most effective means that society possesses for confronting the challenges of the future. Indeed, education will shape the world of tomorrow" (UNESCO, 1997, pp. 17). It was summarised that in the school curriculum should be amended with the help of NGOs to include training in sustainable development.

During the question time a question on which nations are taking the lead in education and sustainable development emerged. The researcher answered that much effort is seen in third world countries like Sri Lanka and India adding that whenever there is inculcation of habit in the primary schools, it helps better than in colleges and universities because the habit has already been formed in mature individuals. It is therefore important to inculcate good values that help save the environment in primary education.

TITLE OF PRESENTATION: VOCATIONAL EDUCATION AND ICT IN COLLEGES: A PROSPECT ON LIVELIHOOD PROMOTION FOR RURAL DISTRICTS IN NAGALAND

NAME OF PRESENTER: MS AZHANUO PEKI

Ms Azhanuo Peki introduced the presentation by giving an overview of Nagaland state, to include their customs, languages, dress, their literacy rate and employment were briefly discussed. Then vocational education was defined. The research objectives were to bring out different vocational courses offered in colleges of Nagaland, to discuss the application and benefits of ICT in vocational courses and suggest measures for improvement. The study was descriptive in nature and it was based on secondary sources of data which included published and unpublished articles, magazines, journals, newsletters and newspapers to gather information on ICT and its impact on the livelihood of communities in the agriculture, technical and vocational education in Nagaland. The literature also captured the role of information and communication technology in the development of rural India. Colleges and vocational courses in Nagaland were discussed by the researcher and the list of colleges, district, courses and programmes were also highlighted.

The researcher put forth the different vocational courses and practices introduced for colleges in Nagaland. Suggestions on mechanising vocational education and ICT awareness for further measures of improvement was emphasized. The researcher highlighted how vocational education with ICT can be the prospective impetus in improving livelihood issues for a rural state like Nagaland, where unemployment handicaps a massive number of qualified citizens every year under higher education sector and jobs are limited. Furthermore, the paper outlined approaches ICT can serve as a breakthrough in elevating vocational education true success for individual livelihood promotion and global knowledge sharing.

The following recommendations were given by the researcher:

- Classrooms should be equipped with projectors, smart board and internet facility
- Lecturers should harness interest and avoid bulk lecture method
- Practical sessions should be introduced after instructional transaction class
- Teaching how to advertise products for beginners
- Incorporating latest demands of new techniques
- Teaching divergent ways of how to do differently and interestingly rather than be limited
- Showcasing students work through social Medias and Print Medias
- Students exposure trip/field trip to places to be encouraged

It was concluded that Vocational education in Nagaland is based upon availability of resources and suitability of the topographical way of life. It was also concluded that ICT is an avenue for vocational courses to bring progression, development and accomplishment. It was further emphasised that there should be a prospective impetus in improving livelihood issues for a rural state like Nagaland.

During the question time, the question, “is there a benchmark in terms of teaching environment which promotes teaching and learning?” was asked and the answer given by the researcher was that, there is no emphasis on vocational qualification and reiterated that this has to be emphasised for people to know the significance. A second question, “what happens if the power goes off?” was asked and the answer given by the researcher was that books are needed and ICT should be used to back up studies and cannot be relied upon completely. The researcher added that in India, there is lack of industrialisation and further stressed that people are migrating to cities in search of Jobs, however, the government is now placing emphasis on vocational qualifications which will help to contribute to the economy.

TITLE OF THE PRESENTATION: EDUCATIONAL SUSTAINABILITY – A HISTORICALLY LINEAR PERSPECTIVE AND ITS TECHNO FADS IN REALITY

NAME OF PRESENTER: DR LT S RAVIBALAN

Dr Lt. S. Ravibalan started his presentation with an overview of Education in the Ancient Civilization, History of Higher Education in the Western World, Higher Education in India, Sustainable Development and Recent Government Initiatives, Changes in the Higher Education and Present-day Scenario and Challenges in Living Sustainability and Need for Vocational Skills. He went ahead to discuss three key points under holistic approach, emphasising education, sustainability and values. The Gurukulam System was discussed in detail and the researcher emphasised that Indian education goes back from this system.

He discussed Education as a process and indicated the application of knowledge, hearing and reflection, indicating that a lot of universities in India taught with the native language but the system was changed as English Language became essential. He mentioned that in the universities, emphasis is placed on English and Humanities and the teacher-centred approach which is now being changed to learner-centred approach. Traditional vrs modern education was also discussed by the researcher and emphasised the following traditional approaches: Teacher-centred, Subject- Specific Knowledge, One-way Transfer of Knowledge, Passive & Limited Theoretical. The points discussed under modern education by the researcher, were Learner- Centred, Subject Specific and Skill-based Knowledge, Multi-way Transfer of Knowledge, Interactive and Engaging, and Conceptual & Practical. The researcher further discussed the different approaches in teaching including students approach and the environment, in which he compared Transmissive Teaching to Transformative Teaching. He mentioned that a new paradigm is accepted but it is not sufficient. The paper also discussed the following disadvantages of digital technology in detail: Data Security, Crime and Terrorism, Complexity, Privacy Concerns, Social Disconnect, Work Overload, Digital Media Manipulation, Job Insecurity, Plagiarism and Copyright, Anonymity and Fake Personas, Overreliance on Gadgets, Addiction, Second-hand Living, Organization and Storage, Depersonalized Warfare, Longevity and social Alienation. The researcher stressed that formal and informal education becomes successful Methodologies in Learning, using values-based indicators, Active Learning-using images and objects, learning through social innovation and, looking for Likely Alternatives (LOLA). These, he said, are the most wanted factors for sustainable living. The recommendation given by the researcher was that real education can sustain only through transcultural ideas and values and highlighted that a mediocre way has to be taken to follow both positive socialisation and a strong belief in moral and ethical relativisms.

It was concluded that every education should foster students' view and must assist students, as education is a process without any biases. The use of technology should be encouraged and education should create sustainable development.

TITLE OF THE PRESENTATION: HIGHER EDUCATION IN MAHARASHTRA: TODAY AND PARADIGM SHIFTS FOR NEW PATHWAYS

NAME OF PRESENTER: MS JAYEETA DUTTA

Ms Jayeeta Dutta introduced her research by giving an overview of Higher Education in India. She mentioned that India's higher education system is the third largest in world in respect of the enrolment after China and USA. She added that gross enrolment ratio has been increasing in India as it was 24.3 in 2014-15 and in 26.3 in 2018-19. The researcher used Secondary data taken from previous research work, books and internet sources. Also, a pilot survey was conducted among the students under different higher education institutions in Maharashtra to analyse the satisfaction level and perception about state higher education. The main objectives of the research were to understand the higher education scenario in Maharashtra, focus on opportunities to access the higher education, to study the challenges faced by different stakeholders and provide some rational recommendations for new triumphant pathway. The researcher mentioned that Maharashtra is the third largest and second populous state in India, a financial capital and has the largest young generation population. She added that State Government has approved 20 self-finance universities in which MGM University was the first in Marathwada region of Maharashtra.

She emphasised that 25 autonomous colleges have been supported with the grants of 50 million rupees each. She said two cluster universities have been established and Choice Based Credit System programme is available in those universities. The paper further stated the different challenges encountered in higher education in Maharashtra as: Access to education for all, the provision of education to students in assurance of livelihood, the linkage between the prospective employers, development planners, industry association, the provision of quality education to a mass number which is very challenging, the disparity of infrastructure and the quality of teachers. The strengths highlighted by the researcher was that the development of Aurangabad Industrial City, and Greenfield Smart Industrial City of Maharashtra offer better infrastructure for higher education and the Pune city is a well-known renowned educational hub. Opportunities for access to higher education in the state are somewhat unevenly distributed, although Maharashtra has ample opportunities to explore higher education with the largest number of youth and better infrastructural facilities to higher education. According to the researcher, the limitation of the research was that Maharashtra higher education was not compared with the pattern of any other state higher education in India. He emphasised that the primary survey was based on student's attitude towards the higher education paradigm and not considered the views of other stakeholders of the society. For practical implementations, the paper focussed on a pertinent policy recommendation in higher education which according to the researcher will surely help policy makers to achieve excellent quality. The primary survey reviewed the student's opinion and their recommendation was highly acceptable for a new pathway.

During the question time, the questions "Is Maharashtra the largest young generation population?" and "What proportion of the population go to the university?" were asked and the researcher answered yes, and added that there is a large dropout rate of Maharashtra students at the university although their enrolment is very less.

DAY 1 – PARALLEL SESSIONS 1B: EDUCATION

NAME OF RAPPORTEUR: JOSE KATTADY

TITLE OF THE PRESENTATION: TREATING THE ROOT SYSTEM: INTRODUCTION OF SUSTAINABILITY IN SCHOOL

NAME OF PRESENTER: DR MADHUMITA CHANDA

The aim of the paper was to discuss different ways and means of improving education system in the schools of India and to sensitise the importance of looking after the planet. According to the presenter who worked as a lecturer in West Bengal, schools make competent students but not compassionate ones. Education must bring behavioural changes in students. Sensitise the students and embed in them the need for sustainable growth and not destructive growth. Values and ethics must be embedded in every walks of life. Students must learn selflessness and must believe in humanity. Engineering students must be told to be socially responsible and they should refrain from ploughing back the fund set apart for fulfilling Corporate Social Responsibilities through un-accountable NGOs.

The presenter carried out four case studies in India namely; The Free School Under the Bridge, Teach for Green, Centre for Environment Education, West Bengal and Swarovski Water School India.

The finding was that colleges and universities were not teaching students to be compassionate and only concentrating on achievements. Sensitisation at the grass root level brings about a positive behavioural change among the children. Teachers should sow green seeds and nurture it with value.

In conclusion it was affirmed that treating the root system is important and students must be sensitised to the wreckage happening to the environment through unscrupulous exploitations. Value education must be compulsory and motivated teachers must impart it. Students should be trained to adopt sustainable mode of living and thereby create compassionate future citizens.

Audience raised the questions about the sources of information and the sample size. The presenter indicated they gathered information from few engineering students in India and from four case studies. Generally, students opined that they hear from teachers in the class room to be efficient and to manage. However, it is different from what they hear outside the classroom- to be compassionate and socially responsible.

TITLE OF THE PRESENTATION: IMPLEMENTING ED-TECH MODEL IN INDIAN INSTITUTES FROM TEACHERS' PERSPECTIVE. A CONCEPTUAL FRAMEWORK

NAME OF PRESENTER(S): DR MANISHA GUPTA AND MS PREETI BHASKAR

The aim of the presentation was to highlight the importance of updating faculty and students with modern technology for teaching and learning. Colleges must take initiative in bringing in new technologies. The literature discusses the importance of in-house training and induction. The staff must be given proper training. The highlight of the literature was to urge students and faculty to leave their comfort zones and to embrace technology changes. The presenter related 4th Industrial Revolution with the efforts of the industries and teachers in preparing future work force.

The methodology used was Interpretive Phenomenological Analysis (IPA). Sample size was 15 teachers working in Delhi, India. Data was analysed using ATLAS.ti (version 8). The conclusion was that educational institutions, schools, colleges and universities will have to arrange regular technology training for the teachers to cope with the radical changes happening around the educational system all over the world. They must also induct students to the application of educational technologies. Education must meet the expectations of the industry to face the challenges of fourth industrial revolution.

Questions were raised about the evidences to prove that technology based education could bring better efficiency in the business world. The questions were answered by drawing-in the roles played by Chinese Professors in the industrial world of their country.

TITLE OF THE PRESENTATION: ONLINE EDUCATION; PARTICIPATION OF FEMALE STUDENTS AND GENDER EQUALITY

NAME OF PRESENTER: MAYURAKSHEE GANGOPADHYAY

The Pandemic brought drastic changes in the mode of delivery and assessment in educational institutions. Dr. Mayurakshee talked about the benefit of online education for both male and female students. However, she nodded negatively when it comes to the opportunity for female students either in participation or in confidence building. She claimed that gender disparity was evident in the provision, facility and utility of online platforms, as female students had to multi task at home. However, the chairperson reminded the audience that the context of the discussion was Indian education system. Students come out from education with no empathy and sympathy.

A highlight from the literature review was that the planet was compared to a wilted plant with a poorly functioning root. The presenter argued that the curriculum was not performance based. Data for the study was collected using Simple Random Sampling Techniques from various colleges and universities in India. Eighty female students aged between 19 yrs. to 32 yrs. participated in the survey. The survey questions were based on Participation of Female students and Gender Equality in online education. The data was collected in Google Format.

75% of the respondents resided in urban areas while 25% resided in rural areas. 40% of the students surveyed stated that the curriculum and delivery have no gender based equality.

The conclusion was that gender inequality could be higher in online education in the rural area only. Teachers must make determined efforts to provide similar learning experiences. All students, male or female must feel comfortable while attending online sessions.

Two members from the audience questioned the meaning in which the word gender was used. The answer was that the word gender was primarily used for highlighting the sexual inequality in online delivery. The conclusions were that gender cannot be considered as a norm and the sample size must be big enough, and there must be a balance between rural and urban samples. Surveying only female students may not be the most appropriate way of collecting data for this type of research.

TITLE OF THE PRESENTATION: HEUTAGOGY – AN APPROACH TO EMPOWER LEARNERS

NAME OF PRESENTER: DR MONIKA CHOPRA

The aim of the presentation was to share the importance of self-study and lifelong study. It aimed to study the attitude of working professionals towards developing learning skills and contribution of Heutagogy approach in upgrading lifelong skills. The presenter talked about Heutagogy, where learners get an opportunity to carry on the studies at their own time using modern technology. Education is for life and even after retirement people study, especially adapting to online technologies, to re-educate themselves and to keep updated. This trend has become a universal factor now.

The literature covered differences between Pedagogy-instructor led learning, Andragogy-self regulated studies and Heutagogy- self determined learning. The method of study was to make online survey from 100 working professionals and 105 senior citizens. Working professionals were from education as well as industrial institutions of Punjab, India. Senior citizens who completed either undergraduate or post graduate qualifications were selected for the study. Fifty-eight percentage of the respondents were males and forty-two percentages were females. Ninety-three percentage of the respondents commented that lifelong learning enriched their lifestyles. The conclusion was that self-learning is a real threat to traditional way of learning. Traditional organisations will have to provide flexibility and should avoid too much time constraints. Universities and colleges must develop programmes for improving staff skills. Senior citizens are coping with self-learning systems. Students must be able to choose any subject or module which they like. Students could be provided multiple entries and exits. Importance must be given to the quality and healthy development even for elderly citizens who intend to go ahead with their studies. No further questions were raised after the presentation.

TITLE OF THE PRESENTATION: PEDAGOGIC CALIBRATION FOR SUSTAINABLE LIVING. EMPIRICS FROM EVIDENCE BASED REASONING STRATEGY (EBRS) IN BIOLOGY

NAME OF PRESENTER: DR RINI STEPHEN

The aim of the study was to emphasise that education must help to develop reasoning and critical thinking. Nurturing socially responsible citizens with a positive environmental attitude was the prime objective of education.

The literature showed todays curriculum, in the context of India, lacked reasoning and critical thinking. Students follow the philosophy of follow the leader. They are not bothered to apply their mind to seek right or wrong. Students had misconceptions related to ecological issues and the normal curriculum did not serve any solutions for their doubts regarding environment and sustainability.

The presenter was keen to state the need for evidenced based decision making process. Nurturing socially responsible citizens with positive attitude should be the ultimate aim of education. Today's curriculum is not environment friendly. Students must be able to reach the level of higher order reasoning for every activity they encounter. There must be a strategy in education system where a learner would take decisions only by going through a process and not influenced by social media. Any decision taken must be evidence based. The methodology used was random sampling techniques and selected Fifty students from year 8, in Kerala, India. Out of the sample selected, half of the students were treated as the control group and the other half were treated as the experimental group. The groups were also randomly assigned.

Data was collected from both controlled and experimental groups. The effort was to improve the reasoning abilities. The experimental group showed high level of curiosity and inquisitiveness.

The conclusion was to inculcate the mode of scientific reasoning and argument based decision making among the learners. The process should follow the sequence of stimulate, support and claim. Teachers should play a pivotal role in encouraging students to make decisions on the basis of proper reasoning. There should be joint actions from academicians, policy makers and politicians for implementation of education for sustainable development. No questions were raised to due to time constraints.

TITLE OF THE PRESENTATION: HOW TO ACHIEVE SUSTAINABLE DEVELOPMENT GOAL 4: INDIA'S CONTEXT WITH NEW EDUCATION POLICY 2020

NAME OF PRESENTER: DR RIMJIM BORAH

The aim of the presentation was to link the Sustainable Development Goals (SDG) 2030 with the education policy of India. It also aimed at ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all. The presentation concentrated on the plan of action namely People, Planet and Prosperity. The presentation also pointed towards sustainability of economic growth by educating the young people of the country.

The literature highlighted the link between the quality education of a country and prosperity and economic strength. Inclusive and equitable education must be provided. Students must be prepared for gaining equitable and vibrant knowledge. The standard of living of the people in a country with adequate number of schools and colleges and quality education would be higher. The presenter talked extensively about the New Education Policy 2020 of India and its impact on training students as global citizens. The emphasis was on the freedom given to students to be masters on different fields at the same time.

The method of the study was to critically analyse the New Education Policy 2020 of India and also SWOT analysis of the present Indian education system.

Education must create sense of good citizenship. Our concentration must shift from our own culture and ethics. It must teach other ways of lives and behaviours. Every student must know how to live ethically and sustainably in a global world. One of the findings of the study was that, in this global era students should be able to complete their undergraduate degree fast paced.

The conclusion was that the study was centred on Indian economy. However, in this global economy imparting equitable and vibrant knowledge will uplift the society as a whole, anywhere in the world.

Due to time shortage, no questions were raised by the members present.

TITLE OF THE PRESENTATION: TARGETED EDUCATION FOR SUSTAINABLE DEVELOPMENT

NAME OF PRESENTER: DR TAPATI MUKHERJEE

The aim of the study was to gauge the impact of Covid19 on schools and colleges in India. The study looked into the concern about the drop outs, especially among boys. Many schools and colleges had to be closed down due to high number of drop outs and at this rate sustainable development in the sector of education will turn to be dream only.

The literature review showed that the rate of drop outs in schools were very high and might be doubled due to the pandemic (Economic Survey 2020, India). The survey identified that 370 million students were affected by the pandemic. Only 50% of the teachers in India were trained for the remote delivery of the class. The college enrolment also reduced by 20%.

The methodology used for the study was to consider pandemic as a case study. It also critically analysed the National Education Policy 2020 of India.

The conclusion was that education falls prey to any kind of disaster since the priority shifts to save lives of children. Education system must be flexible and adaptable, innovative and adjustable.

The attendees raised questions regarding the currency and sufficiency of the data used in arriving at the specific conclusions. Some of the attendees stated that teachers must be proactive and must ensure Equal Opportunities during online sessions and there by avoid dropouts.

TITLE OF THE PRESENTATION: REVAMPING E LEARNING PLATFORMS: CATERING LIFE LONG LEARNING AMID PANDEMIC.

NAME OF PRESENTER: DR SHELLY AGGARWAL

The aim of the study was to show that online platforms were subject constant evolutions. Educational institutes must remain on the top of technology. Revamping eLearning platforms is paramount for the success and survival of a modern school or college. This presentation supported previous talks on eLearning's. The paper studied the ingenuity of e-platforms to cater the lifelong learning among the teaching faculty.

The literature showed that all educational institutions, all over the world revisited their eLearning channels. Students also tried to update their knowledge and skill in using online technologies. Educational institutions could not survive without promoting and revamping their online facilities. Constraints of time, distance, funds and disability could be overcome with the help of e-platforms.

The study was conducted by interviewing 190 lecturers of various universities and colleges in the Chandigarh region of Punjab, India. According to them ELearning platforms helped them to improve their personal and professional growth. Many of them could attend international conferences and their travel time also were saved.

The conclusion was that lifelong learning could be promoted by revisiting or introducing web based learning tools like Zoom, adobe connect, Go to Webinar, Black Board etc. The lessons learnt from the Pandemic must be utilised for moving away from the traditional way of imparting knowledge. Online platforms and improvisations should kindle the process of lifelong learning in an efficient way.

No questions were raised to due time constraints.

DAY 1 - PARALLEL SESSION 1C: EDUCATION

NAME OF RAPPORTEUR: DR MABEL ZVOBGO

TITLE OF THE PRESENTATION: DEMOCRATIC EDUCATION AND SUSTAINABLE DEVELOPMENT

NAME OF PRESENTER: MRS VIMLA CHOUDHARY

A democratic education system brings changes in the society. It brings democratic values to education and values as justice, respect, and trust. Democratic education can apply to learners of all ages in any learning environment in different societies, therefore, a significant focus is placed on this educational system. United Nations program defined education for sustainable development that encourages change in knowledge, skills, values, and attitudes to enable a more sustainable and just society for all.

This article is based on case study of an educational institute, namely Banasthali Vidyapith, Rajasthan, India.

Research methodology: qualitative case study method was used to collect information to get deep knowledge and concrete contextual information about Banasthali Vidyapith. This article is based on primary and secondary data. Primary data was collected by interviews with present and retired faculty of Vidyapith, closely related persons with management, some alumni, their parents, employer, or others who have a good knowledge about the facts regarding Banasthali Vidyapith and personal observation about Vidyapith. Secondary data were by review of literature of Banasthali Vidyapith available in library of Vidyapith to get historical perspective of institute, course curriculum, prospects, website of Vidyapith. to describe, evaluate, and understand various aspects of democratic education systems.

Banasthali offer holistic education which include physical aspect, spiritual education, moral education, intellectual and practical aspect, linguistic and historical aspects.

The physical aspect includes various physical activity and sports like NSS, NCC, indoor and outdoor games and self-defence activities like Judo, Karate, Taekwondo, and this will help to make women stronger. The spiritual education is to prepare children to be a better citizen, more harmonious, and more cooperative so they can understand the purpose of life. In addition to develop the feeling of “Sarva Dharma Sambhav” (respect and acceptability of all religion). The purpose of moral education is to make students virtuous—honest, responsible, compassionate, and reflective about important and controversial moral issues. Moral education helps one to distinguish between right and wrong. It helps in building a good person. Intellectual and practical aspect gives emphasis on research-based education. The linguistic and historical aspects help students to connect with diverse cultures, communities, and societies.

The question raised *was the connection between Gandhi philosophy and sustainable development.* Gandhi was a practical- idealist. His nation was "…education for life, education through life, and education throughout life." Gandhi wanted to construct small, self-reliant communities with its ideal citizens being all industrious, self-respecting, and generous individuals living in a small co-operative and community. He wished that some local craft should be made as medium of education for children so that they develop. In the same manner the education must focus on sustainable development.

Sustainability education gives students real-world skills they can use to improve the planet. It provides today’s children with the self-sufficiency they need for tomorrow. It offers them a deeply engraved understanding of why the environment is important.

A wholesome education system of Five-fold education (social, economic, environmental, cultural, and spiritual) along with Gandhian philosophy is followed by the institute to acquire the knowledge, life skills, attitude, and values necessary to shape sustainable future. To meet the demands of sustainable output, Banasthali provides adequate curriculum design along with the all variants of extra co-curricular activities, bringing sustainability to the environment, society & economy.

TITLE OF THE PRESENTATION: IMPACT OF DIGITALIZED LEARNING IN THE FIELD OF EDUCATION AMONG CHILDREN WITH LEARNING DISABILITIES IN PANDEMIC SITUATION: CASE STUDY

NAME OF PRESENTER(S): MRS K SINDHU BHAVANI AND K. APPAJI

The aim of the paper impact of Digitalized Learning in the field education among children with learning disabilities during the pandemic. They have lost their educational track due to lack of physical connectivity with their teachers and supporting people. The purpose of the researcher is to study the impact of digitalized education among children with learning disabilities. Multiple case study design has been adopted. Semi-structured interviews and focused grouped discussions were conducted for the teachers and parents under the experts' guidance. The sample for the study was special schools in Telangana state in India. There are 15 specialist schools in the Telangana state and only 6 operated during the pandemic period.

Multiple case study design has been adopted. Semi-structured interviews and focused grouped discussions were conducted for the teachers and parents under the experts' guidance. The sample for the study was special schools in Telangana state in India.

The negative impact of digitalisation included lack of digital learning skills is due to attention difficulty, absence of reinforcement techniques, emotional bonding, less confined eye-contact between the trainer and the child, and scope of personalized assessment is missing. Whist the positive impact included rapport between trainer and students will stay intact, boosting the motivation of the students, keeping students engaged with activities and bondage between parents and students has increased.

The study suggests that an alternate way for educating the children with learning disabilities need to be upgraded by flexible curricula, professional advancement among the teachers as well as parents and availability of learning resources should be given special consideration. Support from schools and teachers is necessary in building motivation and mental wellbeing among the children with special need.

A question raised was why a small number of schools continue with the online Learning? The response was that parents and some of the teachers were not able to use online teaching mode and the students with learning difficulties find it difficult to attend without individual support. Another question was on why special needs schools did not stay open during pandemic as it was done in other countries such as the UK. The response suggested that the teachers were afraid to go to work during the pandemic and parents were reluctant to send their children to school.

The chair summarised that it was good presentation highlighted the importance of the digitalised learning.

The findings suggested that making adjustments to the routine such as experiencing closure of schools and confinement to home atmosphere has proved to be a real struggle for children with learning disabilities. Support from siblings, parents and teachers were less due to lack of digital skills understanding among children with learning disabilities.

Some of the recommendation from the researcher was clarity in communication from the government to the teachers as well as the parents in planning the student friendly online meetings on regular basis. Keeping the educational, counseling and medical therapies accessible. Intervention programmers to be conducted for the parents by the special educators so that they can support the child at home whenever necessary.

TITLE OF THE PRESENTATION: THE USE OF DIDACTIC STRATEGIES AND TECHNOLOGIES TO SUPPORT REMOTE AND DISTANCE LEARNING

NAME OF PRESENTER(S): MS MARINA VIANNA DE SOUZA, PROF RAPHAEL CARVALHO DA SILVA

The objective of the study was to analyse the pedagogical strategies and technologies used by professors at the private higher education institution- Instituto Brasileiro de Ensino, Desenvolvimento e Pesquisa (IDP), in a context of global adversity.

This research is based on Responsible Research and Innovation (RRI). The RRI requires a consensus on necessities and expectations by society between researchers, citizens, companies, among other interlocutors, throughout the research process aligned with procedures and results with the values.

In Brazil, since March 2020, educational institutions of all levels have had to organize themselves to offer classes in remote format due to COVID-19. In this sense, researchers, professors and global citizens had to adapt to this new scenario. Participants included teachers of EDAP/IDP who answered an online anonymous questionnaire related to tools and pedagogical strategies them used during global adversities in Higher Education. Participants included ten teachers of EDAP/IDP who answered a questionnaire related to pedagogical strategies used during global adversities in Higher Education.

The tools used by the teachers included (Learning Management Systems (LMS) Canvas and Zoom. Those who used LMS canvas, 50 % find it good and the other 50% find it excellent. Whilst those that used Zoom, 71% find it excellent and 29% find it good. Most used pedagogocal strategies used mental map, group discussion, case study, slide shows, podcast and forum debate.

Initial findings indicate that teachers are using more digital resources and applied technologies integrated with their pedagogical strategies due to the pedagogical support fulfilled by the academic area. A large number of teachers who did not know how integrated pedagogical strategies and technologies are now are improving their their ICT skills, which can be used to engage students and use them in teacher training. It was observed that the strategy of group discussions, whether in a forum or by Zoom, was the most used pedagogical strategy among the group of teachers studied, whereas peer learning and PBL were the least used**.**

The question asked was on the sample size, of the study in relation to the approach to data analysis. The sample size was 23 and 10 teachers responded, the response rate was 43%. The chair summarised that it was good presentation highlighted the importance of teachers upskilling their ICT skills and the great need for academics to continue to use the technologies after the covid.

TITLE OF THE PRESENTATION: PRIVATIZATION AS A SOCIO-ECONOMICAL POLICY AND ITS IMPACT ON TEACHER EDUCATION

NAME OF PRESENTER(S): MR VINAY LAUTRE AND MS ANUPAM YADAV

The goal of this paper is to study the privatization of education in the Indian context in the field of teacher education and its impact on the teacher education institutions' practices.

The growth of teacher education institutions has risen 268% in the last 15 years. Privatization of education has its negative side as well as it influenced the socio-economic life of Indian students. And the maximum institutions are run by private player. Teacher education in India is under the supervision of a government statutory body named as National Council for Teacher Education (NCTE). It has four regional offices divided into four regions to smooth the operation of supervision. This body has the authority to grant or withdraw the permission of running teacher education courses. In past years the state of Maharashtra under the western regional committee and Uttar Pradesh under the North regional committee has been granted a large number of colleges/institutions. These institutions are affiliated with the state universities and follow the guidelines prescribed by the University.

On the hypothesis that the enrolment of students in the private institutions and government institutions are the same and the quality of education is not differing in any means, the authors will analyse the data available in various reports published by government bodies, universities, and other secondary sources.

The study was mainly descriptive. Data was collected from websites, surveys, research papers & articles, journals. The study discussed the teacher education institutions of the selected regions so it will not apply to other country's teacher education.

The study applied to the state of Maharashtra's B.Ed. Admissions of government and private colleges. The data is pertinent for the session 2020-21 admissions. It is only a study about the admissions and vacant seats related to private colleges. The argument is related to the difference amongst vacant seats in all the categories of colleges approved to get admissions in Maharashtra. The other variables affecting admissions like economic status of students, detailed fees structure, and facilities in the colleges like teaching staff, practical rooms, etc. are not discussed.

Total growth in teacher education in 15 years is 268 % and,71.86 % growth in total approved intake, from 2010 to 2020. *The approved 476 institutions are comprised of* 11 aided minority; 12 governments; 27 government aided, 328 unaided; 110 Un-aided minority; 1 University managed unaided college; 5 university managed aided College /department.

In regards to College Category wise vacancy, there were more vacant seats on unaided minority and un-aided colleges.

The question raised first whether T-test were used to make the comparisons between the aided and Un-Aided Colleges/universities. No statistical tools were used.

The second question whether there was a difference on the quality of teaching between the private and government institutions. This was not considered, however, according to the author's 16-year experience in the sector there is lot of malpractice in the private institutions.

Privatisation boost up the growth of gross enrolment ratio (GER) in Higher Education (HE). Although expansion of HE is necessary it should not be done at the expense of excellence and equity. Private institutions are inclined to unfair practices for increasing their admissions by permitting students absenteeism. The employment factor is ineffective in teacher education admissions as there is no guarantee of jobs in this field based on institutions. With privatisation policy the country may achieve the expected GER but this may affect the equity and excellence in the education unless the private institution will not be accredited appropriately based on the demand and supply.

RAPPORTEUR: DR DOLLY JACKSON SILLAH

TITLE OF THE PRESENTATION: IMPACT OF COVID- 19 ON SKILLS AND ATTITUDE OF SCHOOL TEACHERS IN RELATION TO TEACHING LEARNING RESOURCES

PRESENTER: MS KOMAL GAGARE

The paper focused on the challenges faced by teachers in terms of 'what to teach' and 'how to teach' in response to the rapid shift from face-to-face learning to online learning during the pandemic leading to a drastic transformation of the entire educational system in India. It highlighted the need for appropriate training and development of teachers for effective online learning. The pandemic situation left both students and teachers very passive and demotivated. Other factors included struggling to stay connected due to poor access to the internet, the appropriateness of the learning pedagogy, affordability, encouraging collaborations and learning resources. The project sought to address three key objectives to examine the attitudes, skills and use of technology and its availability for students and teachers.

The researchers purposively sampled 76 teachers from various secondary schools in India and used a questionnaire to collect information on their attitude, skills and challenges with learning resources for the digital classrooms. The main findings suggested that over 80% of teachers recognized their inadequacies with digital technologies and want to learn means of using the ICT systems to make their classes more interactive and motivating. Almost 70% of teachers agreed there is diminished interaction in their classes, the workload was heavy and the preparation for classes was time consuming. A recommendation was made by the researchers for the introduction of the Edu-tech module to support teachers develop appropriate learning resources for their students.

Questions arising from the presentation included whether a result of this nature can be generalized to the entire secondary school population. The researcher responded that although the schools selected were in one district in idea, similar schools exist across the country and is confident that the recommendation made could be applied to all secondary schools. Another question focused on the sustainability of such training needs for teachers in years to come and the researchers confirmed that with the advent of blended learning technologies, institutions should continue to assess the digital training needs of their teachers for the foreseeable future.

TITLE OF THE PRESENTATION: SUSTAINABLE EDUCATION IN READING: AN EFFECTIVE LEARNING THROUGH TWO-FOLD TEXT

NAME OF PRESENTER: MS R SUBHASHINI IMRAN

The presentation started with an explanation of the concept of education and Sustainable development as a comprehensive and transformative educational process in which participatory learning and creative, critical, and systemic thinking are strengthened by creating links between individuals and the community. The researcher highlighted the problems faced by students in conceptualizing a given context, difficulty in differentiating similarities and differences in a given text and difficulties with analysis and evaluations. She explained the reading technique called “Two-fold Text” as a technique that enables students to interact with two similar texts effectively to help them with critical thinking and to write in different perspectives. The research was aimed at identifying how reading skills can be magnified through Two-fold text to make students lifelong learners. To achieve this aim, the researcher sought to improve cognitive level and lower and higher-order thinking skills through the use of Two-fold Text (TFT) for the 9th & 10th-grade learners and to analyse their ability in reading comprehension. Different numbers of students were supported to use different aspects of the TFT. They were asked to read one text on a topic and prepare their notes on what they had learned on one side of a paired text chart. They are then asked to read a second text on the same topic and write their understanding on the other side of the chart. This helped them to see how the two sides of the chart generated new understanding of the topic.

Evaluation of the usefulness of the technique suggested an improvement in elements such as analysis, rethinking, understanding and conceptualising as well as improvement in language elements such as grammar spelling punctuations and comprehension in both the 9th and 10 grade students although the benefits seemed higher in the 10th grade students.

The presenter concluded that reading always plays a major role for every individual because it shapes their personality and the use of simple techniques can help learners to develop their understanding and skills necessary to act responsibly and create texts that inform and persuade others to take action for sustainable futures. The presenter was commended for her presentation and how such techniques could easily be adapted for higher education.

TITLE OF THE PRESENTATION: IMPACT OF COVID CRISES ON SCHOOL EDUCATION IN INDIA

NAME OF PRESENTER: MS PARMINDER KAUR

The research project was aimed at assessing the impact of the Covid crises on the educational system in India. The presentation began with an overview of the educational system in India and how it has changed as a result of the pandemic and the need for a holistic approach to address the digital divide among the school children in India. Using a documentary analysis of various sources including research papers, newspaper articles, government documents and other research evidences. The objectives were to assess the impact of COVID on education in general and to identify challenges to Indian school educational systems.

The findings suggested that school closures affected 320 million children with only 37.6 million across 16 states managing to continue education online. This reinforced the digital divide in the country where only 24% of Indians had smartphones or internet connectivity. This also affected the nutrition of about 115.7 million children aged between 6-17 years who relied on free school meals and widened the gender disparity in education with only 33% of women with internet access compared to 67% of men. Overall, this learning gap has been created among marginalized sections of society which includes the disabled, ethnic minorities, migrant, refugee and internally displaced children. Furthermore, the disruptions of the services of the Anganwadi Centres for Integrated Child Development Services during the lockdown had an impact on the health, nutrition and learning of about 30 million 3-6 year olds.

With regards to challenges faced by the educational system during the pandemic, the presented suggested that due to the inadequate one-to one support for students, there was an increased incidence of cyber bullying. This compounded with a lack of parental guidance lead to a drop down in learning outcomes. Schools struggled with the cost of technology and there were postponement of state-level board and university exams. The presenter recommended the need for suitable pedagogy and online platforms for different class levels of higher secondary, middle and primary education and customized tools to address the needs of all learners of varied economic backgrounds. This can be explored further with action- research. She recommended the need for creative, innovative and interactive online teaching supported by the efforts of the government, corporate giants and social agencies.

During the question time, the chairperson, Professor Stephen McKinney asked about how the caste systems were affected in this situation. The presenter reiterated the fact that the loss of learning affected individuals of a lower caste although they were the primary beneficiaries of the reservation policy that allows them to access scholarships for education.

TITLE OF THE PRESENTATION: OPINION OF THE STAKEHOLDER ABOUT THE NO DETENTION POLICY IN SECONDARY STUDENTS

NAME OF PRESENTER: MR RAMPRAVESH RAMJISINGH

In this presentation, Mr Rampravesh Ramjisingh, a PhD student conducted a survey of educational stakeholders to ascertain their views on the No Detention Policy, a bill that was introduced in 2009 by the Indian Government as part of the Right to Education Act, in which no student can be failed or expelled from school till the completion of elementary education covering classes 1 to 8. The opinion of the students, parents, teachers and the principals of different English, Marathi and Hindi medium schools in the Mumbai Suburb of Chembur subdivision are compared in the present research. Overall, the researcher surveyed 300 students, 100 parents, 40 teachers and 20 principals in this descriptive analysis.

The findings suggest that many parents were satisfied with the progress made by their children so long as they are able to read, write, speak and show interest in going to school. They suggested the teachers behave well with the students but concluded the at the no detention policy affects the Indian Educational System. However, half of the parents thought the teachers were giving corporate punishment to their students and they are satisfied in the changes in their children's behaviour and agree with the no detention policy. The majority of teachers on the other hand, felt that the No Detention Policy affects their teaching while half of them say that the policy is not helpful to education and does not affect school discipline or teaching methods. Furthermore, the majority of principals were sure that the policy instils discipline and changes the learning ability of student, while half of the principals did not agree with the policy as it affects active participation of students particularly in extracurricular activities. The students were indifferent to the policy.

Recommendations from the study were not clarified however during the questioning time, it was pointed out to the researcher that he administered questionnaires to a good number of people but did not include any meaningful quantitative analysis with a comparison between the different schools surveyed. The researcher indicated that he still analysing the information gathered but had to present a summary of the data in view of the time constraint.

DAY 1 - PARALLEL SESSIONS 1D: EDUCATION

NAME OF RAPPORTEUR: ALFRED ANIM AGYEMAN

TITLE OF THE PRESENTATION: PRAGMATIC SOLUTIONS FOR POST COVID TEACHER EDUCATION - LESSONS FROM THE USE OF SUSTAINABLE TOOLS AND STRATEGIES

NAME OF PRESENTER: DR CHANDRASEKHARAN PRAVEEN

The Kerala floods of 2018, 2019 and in August 2020 caused a lot of infrastructural damages and further compounded by the Covid 19 pandemic and its associated social distancing rules has led to a loss of instructional hours in educational institutions and a shift to online teaching as a result of an abrupt end to face to face instruction in the Kerala area of India. Based on this background, Dr Chandrasekharan Praveen, introduced the presentation by stating that these issues have made it imperative to find ways of continuing quality education with a focus on Colleges of Teacher Education.

The presenter, has over the years developed a resource mine of Massive Open Online Courses (MOOC) which has served as a basis for further research into the utilisation and adaptation of the use of the "WhatsApp" messenger application as an affordable and sustainable option in the transaction of the teacher education syllabus in a blended mode of delivery. The presenter as an educationist-researcher adapted the Action Research approach as a methodology in the conduct of the research and assumed the responsibility for being the agent and source of change for the research outcomes. He used materials developed by himself for CPD purposes and materials from Future Learn educational platform.

Although the sample size of the users of the app was small which created a difficulty to fully generalise the findings, the research was worth exploring best practices and media platforms in sustainable virtual teacher education. The findings affirmed the possibility to adapt MOOC content and the use of WhatsApp in a blended approach to traditional syllabus to provide an enriched input and make up for lost instructional hours.

In conclusion, the existing digital divide in India and issues related to accessibility and affordability made it imperative to find ways of addressing students' needs. The research has paved a way for the use of an affordable and sustainable tool like WhatsApp in opening up the possibility of student teachers to continue in education and acquire an optimum level of instructional goals of the teacher education programme even in times of crisis.

There was a question on whether the MOOC resources used was adapted only from India's blended learning online platforms. The presenter answered by saying that the MOOC in India offered Edx but were not objective and broad enough. Hence, the resources were developed from the presenter's own CPD resources over the years as an educationist and also from Future Learn.

TITLE OF THE PRESENTATION: QUALITY MANAGEMENT IN HIGHER EDUCATION

NAME OF PRESENTER: DR MINI K S

One of the key elements in determining the socio-economic significance of education is quality hence the issues of QM have become one of the most basic ingredients and strengths within HEIs all over the world with India as no exception. The accountability of HEI's goes beyond the environ of the classroom to the society hence, the need to create a quality culture where the aim of every member of staff is to delight their stakeholders and with a structure in place in their organisations allowing them to do so. On this basis, Dr Mini K S, set the objectives of the paper as a familiarisation of the concepts associated with quality and quality management tools in higher education and to enhance the scope of Quality Management in Higher Education within the Indian context.

Adapting a Desk Research approach, Dr Mini K S set off the research paper with a detailed examination of some of the key tools and approaches to quality management like the failure testing, lean and six sigma methodology, TQM, Continuous Improvement Cycle among others coupled with sample of Studies conducted in the application of the lean and Sigma approaches as well as TQM in Indian Manufacturing SMEs. The findings of the applicability of these approaches indicated that these approaches are derived from an industry background and have nothing to do with higher education ethos. Although higher education institutions were not companies, subject to the institutions' academic mission, goals and strategies some of the basic principles and tools could be applied as long as they were instruments at the service of institutions, their governance and management boards.

In conclusion, the presentation echoed the inevitable fact that globally, quality has emerged as one of the determinants of HEIs' world ranking and competitiveness making the concept of "quality in higher education an immense concern for academics and academia globally. Also accreditation bodies have incorporated quality assurance at all levels of education as one of its key requirements, hence, in order to function properly, the whole education system must be based on a very high level of quality. Hence, customising and implementation of the total quality management (TQM) and Continuous Improvement Cycle is a methodology that can help teachers and the management team in HEI's adapt to environmental change.

There was a question on what a simple definition of quality management in education will be. Dr Mini KS, in her answer reiterated the key indicators of the scope of quality management in education as Transformational leadership; Qualitative Assessment and Innovative Teaching and Learning Methods with respect to Teacher Education.

TITLE OF THE PRESENTATION: SUSTAINABLE DEVELOPMENT AND EDUCATION IN INDIA

NAME OF PRESENTER: DR SANKARARAO KOCHERLA

The Brundtland Commission defines Sustainable Development as the “development that meets the needs of the present without compromising the ability of future generations to meet their own needs". On the background of this definition, Dr Sankararao Kocherla in his paper described Education for Sustainable Development (ESD) as a simultaneous a sub-field of education and a conceptual tool to aid policy makers in authoring educational policies that take into account the present environmental, societal and economic challenges built on UNESCO’s concept of learning at all levels and types-learning to know, learning to be, learning to live together, learning to do and learning to transform oneself and society.” The aim of the paper is to discuss how education helps to promote sustainable development in India with the objective of exploring sustainable development through education.
Adapting a secondary research approach of existing literature, the paper gives an insight of how the concept of sustainability is inbuilt in Indian traditional lifestyle where a large part of the population has a lifestyle based on the principle of reuse, reduce and recycle, as a matter of personal choice but for a large majority necessitated by economic compulsions. This makes India a “sustainable conscious” society with the country being the only country to have passed one of the landmark judgments by the Supreme Court of the country directing all education boards to include environmental education (EE) as part of the formal education system at all levels based on the recommendation of the GOI to the Ministry of Human Resource Development (MHRD) to integrate environmental concerns into all aspects and levels of education.

The presentation concludes that although ESD has a broad mandate encompassed with challenges, it provides an excellent doorway to the social, economic and environmental spheres of India and societies elsewhere to trigger awareness, analysis and action on sustainable development. Also the use of ESD has the advantage of providing the present global populace and bequeath its future generations an environment that would empower them to fulfil their needs and aspirations by striking a balance between economy and ecology.

As a contribution, one of the participants emphasised that the development of a creative content knowledge of sustainability in education is key to sustainable development goals not only in India but across the globe.

TITLE OF THE PRESENTATION: ROLE OF EDUCATION IN COVID-19 SAFETY AWARENESS AMONG BUILDING CONSTRUCTION OPERATIVES IN ADAMAWA – NIGERIA

NAME OF PRESENTER: SAMUEL ABIODUN ALARA

The Covid 19 global pandemic has had an impact on almost every facet of life worldwide at both the personal and national levels and the research paper aimed at looking into the "Role of education in Covid 19 safety awareness among building construction operatives" in Adamawa-Nigeria. Mr. Samuel Alara in commenced the presentation with some statistics on the Covid situation in Nigeria (160,000 cases; 2000 deaths) as a prompt for the need for safety awareness. The objectives of the research paper were to assess Covid 19 safety awareness level of construction operatives and to ascertain the relationship between the level of education of the operatives and Covid 19 safety awareness.

A highlight from the literature review was that educational background can significantly influence Covid 19 awareness level. In line with this, the presenter tested a hypothesis on whether there is a statistically significant relationship between the level of education of operatives and COVID-19 safety level of awareness. Based on a population size of 450 operatives from 9 different construction sites with different education levels a sample size of 52 was selected and data was collected using a questionnaire. The data collected was analysed using SPSS version 26, Descriptive Statistics (Freq., %, & SD) and Inferential statistics (Krukawalis & Chi-square).

The findings affirmed that in general, construction employees with formal education exhibited higher association with COVID-19 Safety awareness compared to their counterpart with no or low educational qualification and that there is a significant relationship between level of education and building construction operatives COVID-19 safety awareness. The paper therefore recommends an enforcement of COVID-19 safety education and a massive COVID-19 awareness promotion campaign.

In conclusion, it was established that the findings of the study agree with Han et al. (2019) and Labban et al. (2020) assertion that, educational background played an important role in the COVID-19 knowledge and awareness. Although the studies were conducted among south-eastern China and Syrians respectively, it is equally applicable to Nigeria. Hence, from a sustainability perspective and beyond Covid 19 awareness, the presenter was of the opinion that Construction firms should prioritise and encourage training of their operatives to enhance their level of education through formal and informal educational qualifications.

NAME OF RAPPORTEUR: RICHARD OSEI ASIBEY-BONSU

TITLE OF THE PRESENTATION: SUSTAINABLE DEVELOPMENT THROUGH ENVIRONMENTALLY RESPONSIBLE BEHAVIOUR: ROLE OF EDUCATION

NAME OF PRESENTER: MR STYNE JOSEPH

The concept and role of environmental education in sustainable development largely sought to develop the knowledge, skills, values, attitudes and behaviours in people to care for their environment and to integrate the values inherent in sustainable development into all aspects and levels of learning. The Lead Researcher, Mr Styne Joseph of School of Pedagogical Sciences, Mahatma Gandhi University, Kottayam, Kerala, India, commenced the presentation by explaining the meaning of “Suitability” and “sustainable development” as first officially discussed in the Brundtand Report published by the World Commission on Environment and Development in 1987, and defined by the corresponding rapporteur as "sustained development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (WCED, 1987). The three dimensions of sustainable development namely; Economy, Environment and Society were discussed within the context of humanity, as the usage of the planet for its survival and development.

The reader posited that the life of human beings entirely depends on the environment and therefore, any adverse change due to improper usage in the efforts to meet the present insatiable needs of humanity puts the very existence of future generations at risk. It was further theorised that, on the road to sustainable development individuals, especially students, teachers and teacher educators should have perfect understanding and be aware of their responsibilities through consciously planned educational programmes and which informed the aim of the research to find out the attitude towards the sustainable development and environmentally responsible behaviour of individuals especially students, teachers, and teacher educators and also to find out their inter-relationships.

The study also intended to make awareness to individuals about the importance of sustainable development goals and to promote different strategies based on its findings. A mixed method of research was used to find out the attitude, behaviour, and the extent to which the individuals show environmentally responsible behaviour. The different tools used for the study including Sustainable Development Attitude Scale and Environmentally Responsible Behaviour Inventory concluded that environmentally responsible behaviours through education are important in attaining sustainable development goals.

In his conclusion, conference participating researchers were urged to use educational programmes and processes to inculcate environmentally responsible behaviour into individuals for the attainment of the United Nation’s Sustainable Development Goals and 169 targets by 2030 with the motto of not leaving anyone behind.

TITLE OF THE PRESENTATION: TARGETED EDUCATION FOR SUSTAINABLE DEVELOPMENT

NAME OF PRESENTER: MR SHANAVAS K E

Education is a human right and a force for sustainable development and peace. Every goal in the United Nation's Sustainable Development 2030 Agenda requires education to empower people with the knowledge, skills and values to live in dignity, build their lives and contribute to their societies. The 2030 agenda aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

The Lead Researcher, Mr Shanavas K E of the School of Pedagogical Sciences M G University, Kottayam, India began his presentation with an explanation that Targeted Education for Sustainable Development (TESD) is about quality education and it's among the 17 Sustainable Development Goals established by the United Nations in September 2015, which seeks to allow every human being the opportunity to acquire knowledge, skills, attitudes and values necessary to shape a sustainable future through inclusive and equitable education and promotion of lifelong learning opportunities for all.

The main aim and objective of the study was to find out the sustainability of chemistry text-books to promote Targeted Education for Sustainable Development in Higher Secondary School students to build a more sustainable world. The study applies multiple research methodologies including qualitative approach, systematic review and whole instructional approach for the collection of data, and which was analysed and presented with the aid of frequency distribution, bar graph and Pi diagrams.

Mr Shanavas concluded that the implementation of research outcomes has resulted in Higher Secondary schools employing interactive and project-based e-learning resources and leaner-centred pedagogies that encourage learners to live what they learn and learn what they live. He further asserted that the successful implementation of the research outcomes has evidenced in the empowerment of students in taking responsibility for their present and future generations through actively participating in societal, economic, environmental and educational transformation programs to help to build a more sustainable world.

TITLE OF THE PRESENTATION: THE ROLE OF LIFELONG LEARNING IN PERSONAL AND PROFESSIONAL GROWTH WITH SPECIAL REFERENCE TO SPIRITUALITY

NAME OF PRESENTER: DR VEDA C V

Education, perhaps, is one of the most important social activity in the life of humanity which accords individuals a number of personal attributes, academic and cultural settings that sets one apart from other individuals. The explosion of knowledge coupled with the speed of change requiring people to learn afresh at many intervals throughout their lives have implications for the role of the educational, which without spiritual and religious interventions, scarcely provide a package of knowledge and skills to serve a person for life.

The Lead presenter; Dr Veda C V, an Assistant Professor, Department of Social Work, Bangalore University, Bengaluru, Karnataka, India, commenced the presentation with a definition of Lifelong as learning processes may be broadly encompassing all learning that is pursued throughout life: learning that is flexible, diverse and available at different times and in different places. She asserted that Lifelong learning crosses sectors, promoting learning beyond traditional schooling and throughout adult. She further theorised that there are two main reasons for learning throughout life for personal growth as well as for professional growth these reasons may not necessarily be distinct as personal development can improve over employment opportunities and professional development can enable personal growth, and which enhances our understanding of life and the people around us, provides us with more and better opportunities and improves our quality of life.

The paper aimed at providing understanding of the key factors which enhance individuals' personal and professional growth based on historic research design and data collection executed through secondary data. The major highlights of the study identify both traditional and other non-traditional key factors which are responsible to enhance personal and professional growth such as spirituality factors, self-awareness, self-love, Intra-personal development, being optimistic, Forgiveness, Hope, the need for meaning and purpose in our lives, the need to love and feel loved, the need to feel a sense of belongingness, the need to feel hope, peace and gratitude.

In conclusion, Dr Veda advanced that spiritual factors hugely help an individual to grow personally as well as professionally, and should therefore be given an equal level of prominence in personal development initiatives to ensure total development of oneself.

TITLE OF THE PRESENTATION: EDUCATION FOR SUSTAINABLE DEVELOPMENT FOR OUR PLANET

NAME OF PRESENTER: MS INDU BALA

Education for Sustainable Development (ESD) is recognized as an integral element of Sustainable Development Goal (SDG) 4 on quality education and empowers learners of all ages with the knowledge, skills, values and attitudes to address the interconnected global challenges facing humanity, including climate change, environmental degradation, loss of biodiversity, poverty and inequality. Therefore, learning programmes and initiatives must be an integral tool to prepare learners to find solutions for the challenges of today and the future through transformative education that allow learners to make informed decisions and take individual and collective action to change their societies and care for the planet. Therefore, the study intends to explore the relationship between education and sustainable development to prescribe suitable education that projects environmental issues, and also adequately equips learners with lifelong tools to achieve and sustain individual societal development.

The Lead Presenter, Ms Indu Bala of School of Education, Mahatma Gandhi Central University, Bihar, India began the presentation by subscribing to the tenets of the United Nation General Assembly, (1987) definition of Sustainable Development as "the use of resources to meet present needs without compromising the ability of future generations to meet their needs". She explained that Education for Sustainable development (ESD) introduced by UNECSO aims to empower all learners and provide opportunities to acquire knowledge, skills, values and attitudes to take decisions and responsible actions to protect and sustain the planet for present and the benefit of future generations. The speaker also identified four (4) domains of education for the sustainable development to include; creating access to basic education for all, re-orienting existing educational programmes, raising public awareness and understanding, and promoting lifelong learning for sustainability. She further posited that Education for Sustainable development is not just for a limited time but it is a life-long process, which should be the part of quality education that will help in environmental integrity, the welfare of society and economically supportive to aid the achievement of all Sustainable Development Goals and help in transforming the society.

In conclusion, the researcher further advanced that Education for Sustainable development is important for environmental learning and it should be integrated across the educational curriculum, with a holistic pedagogy to help provide and support students to learn and act for the planet's sustainability to accord the society of the benefit of constant social development and transformation.

DAY 1 – PARALLEL SESSIONS 1E: SECONDARY EDUCATION

NAME OF RAPPORTEUR: HARSHA SUBHASHANA

TITLE OF THE PRESENTATION: INNOVATIVE ECOSYSTEMS WITH OPEN SCHOOLING TO SUPPORT LESS WELL-REPRESENTED ACTORS AND TERRITORIES

NAME OF PRESENTER: DR CINTIA RABELLO

The aims of the study have been to identify how to design innovative ecosystems supported by open schooling in less well-represented communities, map and observe open schooling practices in CONNECT communities in Brazil and examine drivers and challenges to expand those initiatives as innovation ecosystems.

The researchers have used the case study analysis method for the study. It has been a multi-case study that has been underpinned by responsible research and innovation, global citizenship education and open schooling. It has been a partnership between the Open University UK and five open schooling projects in Brazil, and that has been led by universities, governmental and non-governmental organisations. Introducing innovative ecosystems, Dr Rabello said it is an evolving set of actors, activities, artefacts, society & environment to innovate performance, processes and products by addressing global issues for sustainability.

The presenter has taken five different case studies with different sets of actors, project base artefacts and activities for the study from different segments of the society. In the first case study, students of state schools and the other related actors engaged in a project to run a web radio to inform the community about science, health and society related issues. Students have taken the authorship with the help of other actors such as teachers, family members and scientists. The second case study has been on a programme to integrate multiliteracies, technologies and socio-scientific issues to support suburb-school teachers' CPD. The actors have been suburb school teachers, academics and multidisciplinary researchers. They have had several activities such as online discussions, presentations, e-portfolios and learning material production. The third case study has been on semi-arid scools teachers Digital Skills course. In that, teachers have been guided to integrate pedagogies, technologies and competencies. Third has been on gender equality programme conducted in rural schools. They have been trying to empower girls through ICT to increase awareness about gender inequalities. Third has been on STEAM Education in Network. The actors have been selected from multicultural communities, including indigenous schools. They have strengthened students' learning through STEAM teaching skills.

Then the researcher recommended providing more opportunities at an early stage for students to identify the issues that they are interested in solving, create flexible systems both virtual and physical with and for students to develop research skills collaboratively with fun, supporting students with activities and contacts for them to do their work base on knowledge acquired, and make evidence-based decisions and take actions to develop competencies. As per the encountered challenges, she further recommended increasing student access to fruitful learning opportunities with and without technologies, supporting student retention with active roles and intrinsic motivation and perpetuating learner attainment with self-regulated strategies and progress with competencies for sustainability.

TITLE OF THE PRESENTATION: HOW CAN TEACHERS, STUDENTS AND FAMILIES COLLABORATE WITH SCIENTISTS AND ACT AS CO-RESEARCHERS TO IMPROVE COVID-19 PREVENTION?

NAME OF THE PRESENTER: DR ROSINA MALAGRIDA

The main aim of the project is to co-design policy recommendations for the improvement of the Covid-19 prevention strategy applied in the school environment in Catalonia with the school community (students, teachers and families) and researchers. Secondary aims of the project have been to facilitate the education community to become co-researchers in the control and prevention strategy for Covid-19 in the school environment, improve the research results of a project of the Catalan Government ("Escoles Sentinella") by taking into account the perspectives of the education community (teachers, students, families), improve primary and secondary science education through participatory action research that engages professionals, families and students in a shared process for mutual learning and for solving a real challenge, improve students and families competences, skills, interest and perceptions of science and STEM careers (science capital) - such as the ability to use the scientific method to solve real challenges and learn science through science with scientists working in a research project of the Government Generalitat de Catalunya.

Methodology of the study has been dialogue model: preparation, exploration, consultation, integration, validation, prioritisation and dissemination. At the preparation and exploration stage, the researchers have sent invitation letters to schools, had meetings with teachers, presenting work plans, literature review, initial surveys on knowledge and perceptions and inviting and selecting teacher participants. There have been six workshops with 44 teachers from six schools in Catalunya in the consultation phase. Then the teachers have had workshops with students and students with their families. Then, 22 teachers have conducted reflections in classes with 868 students, and then the students have done the same with families.

The participatory schools have come up with 51 problems into 16 clusters, such as shared responsibility, digitalisation, digital education, responsible consumption and norms. Then, there have been 58 recommendations clustered within 5 categories, which were later validated. The 5 recommendation clusters have been: prevention for and with the education community with participatory governance, communication and education for prevention, health (physical, mental & social), adapting infrastructures and minimising waste and social inequalities. According to the researcher, they await results of the evaluation of the impact of learning.

The preliminary conclusions arrived after the study are involving teachers, students and families as co-researchers in research to improve policies that affect them is key to assure those respond to their needs and expectations, the systemic approach implemented within the DM provided a wide range of perspectives (not only health-related) that were complementary to those obtained by the researchers in other work packages of Escoles Sentinella, the partnership with policymakers with a national socio-scientific issue was vital for facilitating teachers, students and families engagement with scientists, everyone acting as co-researchers to improve Covid-19 prevention, open school participatory approach contributes to increase motivation, meaningful learning and scientific literacy among students and their families, it is important to further investigate open school approach in upcoming phases of the CONNECT project and research in education should offer possibilities for participation to assure that the results better fit their needs, and that, if the challenge is complex, the research should have a systemic approach.

TITLE OF THE PRESENTATION: SCIENCE TEACHERS AND RESEARCHERS AS A COMMUNITY FOR ADAPTING, DESIGNING AND IMPLEMENTING OPEN SCHOOLING FOR SUSTAINABLE DEVELOPMENT: SWOT ANALYSIS OF THE RDE TEAM COLLABORATION FOR THE HORIZON2020 CONNECT PROJECT

NAME OF THE PRESENTER: DR GIORGOS PANSELINAS

The aim of the project has been to examine procedures and benefits to promote collaboration among teachers and researchers. It was to facilitate an open community of learning. The methodology has been a qualitative data analysis. The researcher has done a SWOT analysis and the most significant change analysis based on a focus group video recording and the responses to a questionnaire given to the research participants. There are 18 Science teachers and 4 science researchers organised by 2 coordinators working with 336 students of 13 secondary schools of Crete. Their science capital augmentation will be measured through pre-and post-project questionnaires. The researcher then explained the concept of open schooling, which is defined by the European Commission, the sponsor organisation of the project, where schools, in cooperation with other stakeholders (scientists, families), become an agent of community well-being.

The team has worked together to recreate an educational scenario from “Rewilding Britain” to “Rewilding Greece” to reintroduce marine and terrestrial animals that existed in several ecosystems in Greece. Then they have discussed educational scenarios to address relevant issues for the community, identified links to formal and non-formal learning objectives and used the “Open Schooling” framework of Care-Know-Do (Okada, 2019) for preparing activities to engage students with teachers, researchers and parents. The SWOT has identified several strengths such as community consisting of experienced people with specialised knowledge and each member having a clear and defined role as well as specific responsibilities. It has also identified weaknesses such as all scientists not having the time to collect all the appropriate data for providing them to students and teachers and the members of the community requiring more experience in some topics, e.g. how to involve parents.

The researcher said they had the opportunity to give feedback and refine the pre-and post-questionnaires that measure the science capital of students as well as use more time for educational scenarios implementation in Year 2 and 3 of the project. There have been several other opportunities, such as teachers and researchers of the project having technologies to communicate with their students and make them more enthusiastic about science issues.

As threats, they have identified a need to refine the project tools (questionnaires, duration of implementation) and build a collaborative platform as soon as possible. Another threat has been the challenge of carefully selecting the science actions to connect with the curriculum.

All the project participants have experienced significant changes and improvements in their professional development. Teachers have become more effective in teaching, and students have become more eager to learn science. The contact and collaboration with specialised scientists-researchers have improved the scientific knowledge of teachers and students, highlighting the importance of cooperation with universities and research centres. The involvement of the parents has increased the social impact of the problem-solving possibilities. The approach “care-know-do” has enhanced the participation of the students in proposing and employing solutions for problems.

The researcher concluded the session indicating that community learning benefits from the collaboration among science teachers and science-researchers and also benefits from the open schooling approach of CONNECT; an open-schooling approach where parents of the students and other stakeholders of the local community support not only the learning process of their students but also their community well-being. According to the presenter, community learning also benefits from new members joining the team as far as they share the same values, vision and goals.

RAPPORTEUR DR MINAKSHI KISHORE

TITLE OF THE PRESENTATION: OPEN SCHOOLING FOR SUSTAINABLE DEVELOPMENT TO ENHANCE INNOVATION ECOSYSTEMS

NAME OF PRESENTER(S): DR ALEXANDRA OKADA, DR CYRIL DWORSKY, DR MARIA VICENTE, DR PAVLOS KOULOURIS, DR CHAGIT TISHLER

This discussion was shared by 5 researchers who have a common interest in open schooling, Innovative ecosystem and education for sustainable Development. All researchers are linked to each other with the CONNECT project for open schooling and enhancing Innovative ecosystem. Their objective is to find challenges, needs and priorities to explore what, how and why open schooling in education is required, discussing the influential or novel methods underpinned by relevant principles, successful practices, procedures, tools and scenarios and also discuss various Interventions, preliminary findings and recommendations of their discussion. The presenter discussed the key components of open schooling for sustainable development through science learning either in formal, non-formal and informal settings. The presenter emphasised on science-based careers, employability and social innovation and the need for collaboration between educational providers, enterprises and citizens, the presenter also emphasised on the widening participation and spreading excellence through teaming, twinning, innovating and collaborating. The presenter emphasises on the movement of consolidating open school for the better world in 2030. The presenter also emphasises on the use of scientific resources in decision making by bringing science to the society and supporting the society to develop and understand science with the help of the youth.

Towards the end of the presentation they encouraged the audience to join hands to reflect that they were together to prepare the next generation.

After the session there were few questions asked by the participants around the need to redesign the curriculum, around scientific literacy and concrete examples in recognizing climate change and how has this network helped changes at the local level. All the presenters answered in their own country's perspective. The presenters believed that open schooling is a way to open up school and children as active agents to make changes in community through centralised education policy. The open schooling revolutionises schools and community to co create solutions to local problem with the help of science. When asked about evidence of the members of the group in the national policy level, the presenter mentioned that the Policy makers was a participant of the discussion group. The presenters also believed that bringing the children to the universities brings about a change in teachers' and researchers' mind-set when they are exposed to the questions asked by the children. The presenter believes that the schools with the research company along with the councils broaden the stakeholder's establishment of the network. This helps the children to bring new ideas for their surroundings.

TITLE OF THE PRESENTATION: RRI IN AN INTERDISCIPLINARY APPROACH: DEVELOPING SECONDARY SCHOOL STUDENTS' MULTI-LITERACIES

NAME OF PRESENTER(S): GABRIELE POLATO SACHINSKI, DR PATRICIA LUPION TORRES, DR RAQUEL PASTERNAK GLITZ KOWALSKI, MRS DANIELLE CRISTINE, BOARON GRUNEWALDER

The research paper emphasise on how the society has undergone a transformation marked by scientific and technological development, which has brought new educational demands. It also makes an effort to find new alternatives for a praxis that aims at construction of knowledge in training students as active subjects of the society. This discussion was supported by some good literature. The purpose of the research was to develop some strategies that allow working with current issues in the field of scientific discoveries and innovations with specific reference to (Covid-19) in an analytical, critical, reflective and engaged way in Portuguese Language classes, through the development and application of a didactic sequence based on RRI skills. The research question formulated was around How can the use of RRI strategies and skills contribute to students' Multi-literacies, especially to their Scientific Literacy, helping in the formation of students-citizens who are more critical and able to reflect and act upon the society around them? The methodology used was Case study, the sample use for the study was One teacher from Portuguese Language, and two classes of 2nd year of secondary school in a private school in the city of Araucaria in Brazil, with 30 students each. Throughout the research activity it was noticeable that there was an improvement in the use of Multi-literacies of the students, because they mobilized several types of Literacy: Critical Literacy, Scientific Literacy, Digital Literacy and Visual Literacy. The most prominent finding of the research was to stimulate the analysis of the effects of scientific and technological innovations in society, allowing an increase in the student's repertoire, and scientific knowledge would now apply to the social problem that serves as the basis for the theme of the proposed final activity. The research concluded with the thought of John Dewey (1993) where he says that Education is a social process. Education is growth. Education is not a preparation for life; education is life itself.

TITLE OF THE PRESENTATION: ALIGNING SCIENCE EDUCATION WITH SOCIETAL NEEDS AND VALUES: INTRIGUING

NAME OF PRESENTER: MS SIGRID VEDEL NEUHAUS

Dr Sigrid while discussing his research paper emphasised on the EU funded project CONNECT and how it sets out to encourage students with low science-capital to pursue a career in STEM by improving their scientific self-esteem. Dr Sigrid emphasised on the two type of resources used in the process, the first one being the Open-Ended Scenario by building on deliberative democracy, technology assessment and RRI by adapting participatory methods to an open schooling context and the Danish board of technology which works with a mission for societal development by informed and forward looking collaboration between citizens, experts, stakeholders, and decision-makers creating society that are equipped to participate in the solution of specific problems in the society. He further discussed on the principles for citizen engagement and the stages of decision making along with the participatory methods in Connect where the scientific knowledge for the decision making processes and also scientific knowledge in the context of society all worked towards aligning science education with societal needs and values. Dr Sigrid also discussed the Consensus Conference with a general outcome towards policy recommendations on issues chosen by the citizen. He also discussed the four step in this conference which were faming, Questions, knowledge and opinion and deliberations followed by recommendations which would be well informed, communicated, written and interpreted and built on strong scientific arguments of the participants.

TITLE OF THE PRESENTATION: OPEN SCHOOLING WITH COLLABORATIVE SCIENTIFIC ACTION FOR ENVIRONMENTAL PROTECTION OF WILD ANIMALS IN THE SEMI-ARID NORTHEAST

NAME OF PRESENTER: DR SILVAR RIBEIRO

Dr Silvar refers in his presentation on the methodology of the CONNECT Project's schools' planning, as an open school experience in Brazil which is 500 kilometres away from the capital. Aim of the research was to support secondary schools to adopt open schooling by integrating science action in the core of their curricula and using participatory science with families, universities and enterprises. However, this could not be brought much into action due to the pandemic. The sample for the research conducted was 34 teachers and 810 students from Antônio Magalhães Municipal School, a public elementary school in the city of Irecê which is located in the state of Bahia in Brazil. This topic was selected as there was a concern for trafficking of wild animals, their capture, marketing, and the captivity of songbirds as this has a strong impact of on Brazil's environmental balance and the illegal transport, death and maltreatment of birds, causing the threat of they being extinct and they wondered how they could do this project as the objective was to implement collaborative scientific actions with open education. He adds to the presentation that they were trying to answer the Brazilian rewilding birds' scientific questions by discussing the same in the schools, society and other organizations to come up with some solutions. He ended his presentation by providing his email for further questions and discussions.

DAY 2 - KEYNOTE SESSION

NAME OF RAPPORTEUR: DR MINAKSHI KISHORE

NAME OF PRESENTER: PROF STEPHEN MCKINNEY

TITLE OF THE PRESENTATION: SUSTAINABLE DEVELOPMENT AND EDUCATION

Prof McKinney in his keynote discussed on the sustainable development and education, he had three parts of this keynote the first part discussed on the Rise of the concept of global education, the second part was around the UN agenda for 2030 in regards to the three dimensions to the sustainable development that are economic, social and environmental. The third part of the lecture was around the sustainable development and education and how it has an interdisciplinary endeavour.

While discussing the Global education he refers to the way teachers, parents have responded to the new style and challenges by upskilling. He mentions that the vulnerable challenges and the disruptions have created pace for sustainable development in global education. He also makes a mentions of the PISA test of 2000 which talks of the healthy education system which talks of the key skills and information of young. Global education in additions aims to endeavour just and sustainable world. He also emphasises the difference between the sustainable goals and sustainability and says that ways of attaining the sustainable goals it through Process and Practices promotional sustainable production while sustainability could be understood as a long term goal.

While discussing on the second aspect, Prof McKinney said that the UN 2030 agenda focusses on improving the world and lives of all the people by eradication of poverty, hunger and security of food. Its broaden vision is inclusivity of Planet protection by managing natural resources, prosperity in social life, peace just and inclusive society. He also emphasises the concept of connectedness to the world, where the action should begin with education in environment, education about environment and education for environment. This would bring about an understanding and response to the environment and move towards a response to challenges of environment.

While discussing on the third aspect of his lecture he emphasis the effect of the outdoor learning or the experiential learning by bringing in the quote of (Orion 1993, p.325) he says that because of the restrictions of the Covid there has been uncertainties in education section right from school to HE. He mentions that the interdisciplinary approach in education is challenging as it is the means of rejecting the stereotype. UN 2030 agenda was around transformation of the individual is required for the change in the world. There are different approaches in the world, education is the vehicle for change and transformative mode of learning. Ongoing transformational learning designs the way to changing the way to respond by deeper understanding of environment. To conclude he talks about the inner transformation which talks about the changes related to people's mind sets, which are made up of their values, beliefs, worldviews and associated cognitive/emotional capacities (such as mindfulness, self-awareness, compassion and empathy), and this involves changes in people's consciousness he added that the pandemic has ironically affected positively to a greater connectivity with nature.

DAY 2 – PARALLEL SESSIONS 2A: SOCIAL SCIENCES

NAME OF RAPPORTEUR: DR MABEL ZVOBGO

TITLE OF THE PRESENTATION: PARADIGM SHIFT TO EMBRACE JUSTICE FOR WOMEN

NAME OF PRESENTER(S): BHAVIKA BINDRA AND PROF (DR) SHIKHA KAPOOR

The most common type of prejudice is gender bias. Women are subjected to patriarchal legislation, societal norms, and thus are marginalise. A cultural shift is required to bring about the reforms necessary to end women's inequality and injustice. India ranks 112th out of 153 countries in a chart derived from World Economic Forum's Global Gender Gap Index in 2020.

This paper deals with the status of women, their work arrangement, policies, strategies for their participation, sexual harassment, domestic violence, women trafficking, child marriage, acid attacks. Hence there is a need for radical positive action to readdress the inequalities in women's lives and build a just and resilient world. There is also a need to increase awareness and empower women to fight for their rights.

Secondary data was used to highlight the actual position, women's misery, and gender inequality in numbers from various academic papers and related articles. Domestic and sexual violence against women is a major public health issue and a violation of gender equality. According to WHO estimates, approximately one-third (30%) of women worldwide have experienced either physical and/or sexual intimate partner violence or non-partner sexual violence in their lifetime. Almost one-third (27%) of women aged 15-49 years who have been in a relationship report that their partner has subjected them to some form of physical and/or sexual violence.

The following strategies are in place to combat violence against women. The World Bank is dedicated to combating female violence via funding, study and education, and engagement with stakeholders worldwide. Other strategies include teaching the future generation to be more vocal about any kind of violence, learn self-defence. Increase awareness about women empowerment programmes and campaigns.

Domestic violence is exacerbated by economic reliance. During quarantine, when more women worked in informal occupations and were laid off, they were hit harder since they were financially male dominant counterpart.

A few suggestions and recommendations after the presentation were that Women's participation, gender wage disparities, and educational attainment remain challenges. Women have historically been looked at with scorn for decades, with numerous strictures inflicted on them restricting their standing to the whims of men. However, society's perspective has shifted, and a general mind-set is being formed to strive for the emancipation and advancement of women so that they can also contribute to the enhancement and wellbeing of society.

Ensure that women are adequately represented in decision-making settings, and aid in the expansion and stability of local females 's right organisations to also ensure that women's views and concerns are acknowledged and addressed.

Females should be granted the same rights as males in order to truly empower them (women). They must be strong, attentive, and awake at all times in order to grow and develop. Governments across the world should make strategies to combat this problem.

TITLE OF THE PRESENTATION: CHANGING CULTURAL DIMENSIONS OF INDIAN DIASPORA: A STUDY ON HOFSTEDE MODEL

NAME OF PRESENTER(S): DR ANUPAMA VERMA AND KRITIKA RAJ

India is a diverse country with various religions, cultures, dialects, beliefs reflected through their diverse behaviour. These beliefs and behaviours of the individuals are reflected in the organizations they are associated with and play a crucial role in determining the organizational culture and work environment.

As people's culture and beliefs are changing with the influence of various external factors and their exposure to international dimensions, it becomes necessary to study the changes experienced by the Indian society, which moulds the future of the organizations.

The aim of paper to study the change in cultural dimensions of people residing in different geographical locations of India with different educational and experiential backgrounds, exhibiting diverse behaviour through different social learning. This will assist the organizational change practitioners to introduce change and development in their organizations successfully according to the requirement of the society. The difference between societal and organisational culture was pointed out.

The objectives of the study to understand which dimension of Hofstede's cultural theory is more dominant in today's scenario of India. To study the variation in organization culture based on the demography of India and to understand the cultural variation in organizational based on gender.

The Research design was a descriptive and explanatory research design was adapted to undertake the study on Changing Cultural Dimensions of Indian Diaspora. A questionnaire method has been adopted for collecting the responses from different regions of the country. The questionnaire adopted was based the four dimensions of Hofstede's cultural theory. The questionnaire constituted 32 questions and responses of 208 individuals were used for the analysis. The Cronbach alpha was used to test reliability of the internal consistency of the questionnaires and descriptive statistics to report the differences in cultural perception based on gender and demography of India. The main findings suggest that there is no variation in the organizational culture based on gender and that organizations' culture differs significantly based on Geographic Location.

Some suggestions and recommendations were as follows; According to the research the organizational culture does not vary significantly based on gender. A significant difference in the organizational culture based on the geographic location shows that people may show a change in their operational perspective when the work location switches which may lead to inefficient growth of the individual and the organization as a whole.

The reason behind insignificant difference in perception of the respondents belonging from different geographical location may be due to migration from one region to another for better employment opportunities and also due to influence of western countries.

For future studies, the researcher suggested that the work can be progressed by analysing the Hofstede Dimensions variations based on many other factors such as birthplace, years lived at a specific location; where an individual has been raised and lived, and identity with other cultures.

TITLE OF THE PRESENTATION: COVID-19 UPSHOTS ON STUDENTS' HEALTH, EDUCATIONAL AND SOCIAL LIFE: AN EMPIRICAL STUDY

NAME OF PRESENTER(S): DR DHANONJOY KUMAR, DR MD. SAIFUL ISLAM, DR MIAH MD RASHIDUZZAMAN

Due to the Covid-19 virus, almost all the countries faced disruptions and instability, requiring painful adjustments to the new reality.

The aim of the research is to find out the influences of Covid 19 on students' health, educational and social life in the perspective of Bangladesh. Covid -19 virus has affected the stoppage of the consistent academic core curriculum of about 40 million students through the state from 17th March, 2020 to date. The government and concerned authorities have taken some initiatives for students such as out-school online learning and using TV media to deliver education during the pandemic but these do not meet the desired levels of satisfaction.

The objectives of the study were namely to explore the effects of the Covid-19 Pandemic on students' regular education. To identify the impacts of the Covid-19 Pandemic on students' physical and mental health and to assess the impacts of the Covid-19 Pandemic on students' social life.

The research work has employed a descriptive survey with a structured survey questionnaire and interactive interview for collecting the possible data. A simple random method was used, the sample was 600 and 508 responded giving an overall response rate of approximately 85%. Some important statistical tools like chi-square test, factor analysis and regression analysis have been deployed for analysing the data.

The findings were Covid-19 pandemic situation 'physical and mental pressure' impacts students' health, educational and social life. The school closures impacted on student's health, educational and social life. In addition, school closure has brought about disruptions to education, hampered regular routine learning, changed lifestyle, increased students' violence, invigorated social media addiction, created unemployment and increased poverty levels.

Some summaries and suggestions were as follows. There are significant impacts of the Covid-19 pandemic period on students' health, education and social life. School closure has brought disruptions to education and hampers the regular learning routine.

Students are very much addicted to social media. Excessive addiction to social media and internet gaming is very harmful for students' education and learning.

From the researchers' observations in the Covid-19 pandemic situation, students are living with their families and are being influenced by the poor mindsets of their society. They are being involved in social violence and social crime. Students feel frustrated about jobs and their future life.

The government needs to create employment opportunities, provide incentives, arrange counselling programs for students covering undesirable impacts of covid-19 and merits and demerits of social media, internet gaming.

TITLE OF THE PRESENTATION: DISABILITY AND DISCONTENTMENT: A STUDY OF SOCIAL EXCLUSION IN INDIA

NAME OF PRESENTER: DR SHARADA PRASANNA ROUT

This Paper is focused on disability and discontentment and social exclusion of India in general and highlighted about the Odisha disability's deprivation and related to their social exclusion. Odisha is one of the poorest state in India. The paper also looked at government policies and plans in regards to disability.

People with disabilities are routinely subjected to all forms of discrimination, denial, and deprivation of rights with the result that they are often marginalized. The world is home to over 600 million people with disabilities. Over two-thirds of them live in developing countries and 20-60 million in India.

The Indian government passed the Persons with Disabilities Act (PWD), in 1995, which addressed the issues of nondiscrimination, right to equal opportunity, and affirmative action for persons with disabilities in the country. However, most of the benefits are not being felt in the rural areas compared to the city.

The Indian Government introduced a special law for the National Trust of the Welfare for the Persons with Autism, Cerebral Palsy, Mental Retardation, and Multiple Disabilities Act in 1999. The National Policy on Persons with Disabilities was formed in 2006 with a focus on concrete strategies for realising the entitlements of persons with disabilities.

Odisha recognizes the inequities existing with all the socially marginalized groups such as (Tribal, Women and Disabled) in the State. Disabled community is not an exception, especially as it suffers from socio-economic inequities and social deprivation in the State of Odisha. However, the disabled people are still struggling for getting the basic facility from the state.

Odisha Rule (2003) is a State legislation that protects of the rights of the Person with Disabilities in the State. A welfare state has a commitment to promote overall development of its citizens including those with disabilities so that they will be enabled to lead lives of equality, freedom, and justice and dignified as mandated the by Constitution of India.

To further strengthen the Person with Disabilities life prospective, the Odisha government had passed (the Rights of Persons with Disabilities Act, 2016) to protect the rights of persons with disabilities. Despite the legal protection and policy guidelines, disabled people are still facing challenges. According to the Odisha, RPD Act, 2016, that recognizes 21 categories of disabilities instead of 7 in earlier Act 1995, which was formed for the PWDs purpose only. It has also a provision for imprisonment and fine for violence, atrocities and denial of rights to PWDs.

The audience noted that the PWD act 1995 is has been abolished and there is new rule to replace. The researcher was aware of it but wanted to emphasise a point

Some of the suggestions and recommendations are as follows; The Government must increase training and technology so that the disabled people can benefit.

Most persons do not have basic access to health care, education, and employment opportunities, do not receive the disability-related services that they deserve, and experience exclusion from everyday life activities.

Family control and lack of political power have made disabled people in the village voiceless and powerless. Disabled persons are not treated as capable like able-bodied individuals to contribute equally to the society's development.

Both the scientific and awareness information is disability is lacking. It was only in the 1981 Census that the question on disability was addressed due to the UN declaration of 1981 as the 'International Year for the Disabled.'

The attitude of the Odia society towards disabled persons is still negative, and there is widespread discrimination against disabled people in the job market in Odisha.

The policy makers in India have overlooked the rights and entitlements of the disabled people till today. In most of the cases, these Acts are being violated and not being properly implemented for the protection of the disabled in all walks of their life. These Acts remain merely on paper. Odisha is lacking behind in providing the basic amenities to its disabled citizens.

TITLE OF THE PRESENTATION: GENDER EQUALITY FOR SUSTAINABLE DEVELOPMENT GOALS

NAME OF PRESENTER: DR JAGNYASENI PANIGRAHI

The 17 Sustainable development goals to transform the world were outlined. The paper focused on the fifth goal of Gender Equality. '*Gender Equality is more than a goal itself. It is precondition for meeting the challenge of reducing poverty, prompting and building good governance'* Kofi Annan.

This study is mainly on empowering women and promoting gender equality and its importance to accelerating sustainable development. The researcher uses a descriptive qualitative approach.

Gender inequality remain a key challenge among many countries. Realizing gender equality and the empowerment of women and girls will make crucial contribution to progress across all the goals and targets. Women and girls must enjoy equal access to quality education, economic resources, political participation and equal opportunities with men and boys for employment, leadership and decision making at all levels**.**

The objectives of the study are to empower the women, to promote equal treatment; to contribute to the transformation of society; to stop inequality and discrimination against women and girls; to make decisions and take actions to achieve and maintain their own reproductive and sexual health and to share equal distribution of power and influence.

The difference between Gender equality and gender equity was outlined. Gender equality is based on the idea of equality and opportunities. Whilst gender equity recognise women and men have different needs, preferences, interests and may require different treatment of men and women.

Gender equality is essential for reducing poverty, promoting health, providing education, protection of women and girls. Violence against women in India has been in various forms including acid throwing, child marriage, domestic violence, dowry, family planning and rape.

The paper also shared some facts and figures such as women with full time jobs still earn about 77% of their male counterpart's earnings. Sixty-two million girls are denied an education all over the world. Lastly 1 in 3 women have experienced physical or sexual at some point in their life. Each minute, 28 girls are married before they are ready. Summary of suggestions and recommendations were as follows. Gender equality can be achieved by mainstreaming gender, women empowerment and gender equity. It can also be achieved by equal treatment of children by parents regardless of their gender, eradicating patriarchy, equal educational opportunities for children and instilling the notion of gender equality into kids at a tender age.

People voice support for equal pay for equal work and stand up against harassment. Women ensure that some of role models or mentors are women. 'Freedom cannot be achieved unless women have been emancipated from all forms of oppression' Nelson Mandela.

DAY 2 – PARALLEL SESSION 2B

CHAIRPERSON: DR DAZY ZARABY

NAME OF RAPPORTEUR: AMANDA BABALOLA

TITLE OF THE PRESENTATION: MANAGING FACTORS INFLUENCING THE CONSTRUCTION OF ROAD OVER BRIDGES: A CRITICAL ANALYSIS

NAME OF PRESENTER: MR AMIT KUMAR DAS

The research paper was delivered on the infrastructural development which he said included Roads, Over Bridges, and Flyovers as an essential criterion for the overall development of a nation. The paper provided information on the classification of the Indian Economy and how it impacts on bridge contractions. India which was the area of study with focus on over bridges constructed over the circular canal was classified as having primary, secondary and tertiary sectors. The research rationale was based on an issue of undue delays of most infrastructure projects which in turn places the project viability at risk. The four research objectives are as follows: To give a brief overview of the bridges across circular canal, Kolkata, to identify the factors associated with cost overrun for the construction of Road Over Bridges, to analyse the cost overrun due to delay in completion of work and to contribute some suggestive measure. The collection of data was done using both primary and secondary data. The factors causing time delay in the construction of bridges was identified from the authority of KMDA through the structured designed questionnaire provided by the researcher. The researcher also collected Secondary from documents and records of the KMDA. The statistical tool that was used to conduct the research was linear regression analysis with one independent variable used with SPSS to find the relationship between time delay and cost overrun in bridge construction.

In conclusion, the presenter affirmed that there was a correlation between Cost of land acquisition, Poor site condition, Shortage of material and Lack of managerial and technical knowledge and time delay in building bridges in India. The chair commented that the session was more for research relating to social sciences. However, the information could be useful for future research on related matters.

TITLE OF THE PRESENTATION: A STUDY ON "IMPACT OF SOCIAL ISOLATION ON ELDERLY AND SOCIAL INCLUSION OF ELDERLY THROUGH SOCIAL WORK INTERVENTION FOR SUSTAINABLE DEVELOPMENT" WITH SPECIAL REFERENCE TO OMASHRAM OLDAGE HOME AT BANGALORE

NAME OF PRESENTER: MRS ANITHA SANNAKAMAIAH

Mrs Anitha Sannakamaiah gave an interesting presentation with a start that explained aging as a normal process of each human lifespan. She said in each phase of human life, people will be connected to their family, friends, colleagues through social interaction. She added that elderly life could become wretched if they lacked family support. The research paper aimed at finding out the major reasons for social isolation and the impacts in the life of the elderly people. The presenter also added the study was conducted to know the intervention that could be used through social work to provide social inclusion for the elderly in India. The research rationale was to find out the solutions to bridge the gap between different generations and to give more prominence to emotional bonding of family and social life. The research methodology was based on descriptive research design. The presenter used structured interview schedule, Observation method and Focused Group Discussion. The presenter added that the central idea of the research was to gain an understanding from the perspective of social workers on how the significance of family and societal support for elderly social inclusion are addressed. The study was conducted in Bangalore based on Omashram Oldage Home 2 units at Hulimavu in India. The presenter stated that a random sampling of 100 neglected elderly people in the unit was done. The research findings suggest that, most of the elderly people in the units were not getting adequate support from their family. The younger generation gave more attention to material acquisitions.

In conclusion the researcher stated that educating the younger generation to know the importance of culture and family values will be of great benefit to the aging population in India and also providing good healthcare facilities is very essential for social workers and other paraprofessionals working with elderly people. Comments from participants suggest they found the topic interesting and insightful. Suggestions and recommendations included the need for a clear indication of the number of participants in the study in future presentations.

TITLE OF THE PRESENTATION: FRIENDZONE A REMEDIAL SOCIAL MEDIA PLATFORM FOR SOCIAL ANXIETY DISORDER

NAME OF PRESENTER: MRS PRASEETHA M S

Social anxiety disorder can be a chronic mental health condition, but learning coping skills in psychotherapy and taking medications can help gain confidence and improve the ability to interact with others. The presenter pointed out that social anxiety disorder, fear and anxiety leads to avoidance that can disrupt an individual's life. The presenter did a study on social media platform that could create a remedial platform for social anxiety disorder. The presenter did an exploration of Blockchain Technology with special reference to its implications in the perspectives of anxiousness and fearfulness in common people due to its usage. Blockchain was explained as a system of recording information in a way that makes it difficult or impossible to change, hack, or cheat the system. The platform provides better privacy to its users and gives users' right to express themselves freely. The research objectives, rationale and methodology were not stated during the presentation but Mrs Praseetha provided information that gave knowledge on some of the key terminologies used in her presentation. She also explained that another platform that has become of interest was FriendZone which is a community driven social media platform and also functions on a decentralized blockchain platform. She explained that its users can earn rewards in exchange for their content in the form of its cryptocurrency.

It was concluded that decentralised nature of Blockchain technology was the future of social media because of the fact there is no central organisation or supervisor controlling value. It was further added that monetising social identity and personal content through block chain network will reduce receiving unnecessary adds to create wealth for unknown enterprises and would be of more benefit to users.

Participants commented that the presenter had an interesting topic which could be further investigated with clarification on the significance of the research, methodology and literature review. recommendations included the need to include a bit more focus on social anxiety disorder. The chairperson highlighted that in addition to the need to follow a research protocol, a number of key information were missing such as research objectives, questions and findings.

TITLE OF THE PRESENTATION: SCHOOL AS THE MESSIAH OF SUSTAINABLE DEVELOPMENT: A MULTIPLE CASE STUDY OF THREE LEADING RURAL SCHOOLS OF WEST BENGAL

NAME OF PRESENTER: MS CHAITALI HALDER

The presenter started with a good background information that gave reason for her research on School as the Messiah of Sustainable Development using the case study of three leading rural schools of West Bengal gave. Ms Chaitali Halder said one of the most demanding and pertinent issues in the contemporary times is to sustain the condition of environment. It is not surprising to know that climate change became a burning issue for consideration hence all United Nations Member States in 2015 provided a blueprint for peace and prosperity for people and the planet that would be applicable now and in the future. The presenter said that sustainable Development Goals (SDGs) is an urgent call for action by all countries and explained that it was essential to recognise that ending poverty and other deprivations must go hand-in-hand with strategies that would support the improvement of a number important things such as health and education, reduction in inequality, economic growth and at the same time tackling climate change and working to preserve our oceans and forests. The presenter said to achieve a sustainable development, education is very important and schools have to be seen as a Messiah of Sustainable Development. She further said that educating students from a young age on ways that the planet could be protected will go a long way in securing a better future for generations to come. The research aimed at analysing the impact of the activities to change the attitude and values of the learners to accelerate the journey to achieve the goals of sustainable development. Qualitative method was used to conduct the research. The presenter informed that she followed case study research design for her study and 3 Higher Secondary schools located in remote rural areas in West Bengal, India were used. The presenter added that semi-structured interview schedule with a self-made questionnaire focusing on selected Sustainable Development Goals were administered. The number of participants was not indicated. She suggested based on her findings that there is a significant impact to support sustainable development when teachers, students, parents and community members work together.

She concluded that the youths are the future of tomorrow, setting sustainable development goals in schools will not only enrich the quality of education but also change the attitude and values of the learners that are instrumental to achieve the goals of sustainable development.

A question to find out why the presenter suggested that schools could be the messiah for sustainable development, was responded by the presenter. She indicated that long hours of learning in schools makes it ideal for studies on climate change and issues relating to global warming. This will in turn help educate parents and families in the rural areas. Other suggestions included the need to indicate the number of presenters.

TITLE OF THE PRESENTATION: REFLECTIONS OF YOUTH ON USAGE OF SOCIAL MEDIA

NAME OF PRESENTER: MS MEERA SWAMI

This exciting paper focused on the perceptions of the youth on their usage of social media. The presenter indicated that 2/3rd of Indian youths spend considerable amount of valuable time online using various social networking sites like Facebook, Twitter, YouTube suggesting that after 'tech savvy', 'social media savvy' has become parallel to today's generation. The presenter conducted pilot research to investigates the reflections of the youth on the usage of social media. The participants were 8 undergraduates and postgraduates from the various streams of science and technology, commerce and management, humanities and interdisciplinary studies from South Mumbai. The research was based on the rational that the over use of social media could have a damaging effects on university students.

To bring her study to light, she presented four broad research questions upon which she did her analysis using the qualitative method to address the questions on the extent of social media usage and why, and whether they encountered problems subsequently conducted an in-depth analysis of the experiences and perceptions of youths and described the structures of experiences by doing a direct investigation through interviews.

Her conclusion suggests that the youth perceive social media as an integral part of their lives and they have a great understanding of the pros and cons of the social media usage reflecting that if used in a right proportion, it is a blessing to mankind.

A few thought provoking questions was pushed forward such as what are the lessons to be learnt from the research? What are the changes needed to reduce youth's dependency on social media as a way of social interaction? Who are those responsible for this change? The responses suggested that social media could have both positive and negative effects on the mental well-being of youth and changes are needed to reduce youth dependency. she proposed the need for the government to develop more infrastructures that would allow more social interaction without the use of technology. She however said the COVID-19 pandemic has had a negative impact on how social skills are developed among the youths and this has made them more reliant on technology to reach out to friends and family. She also responded to the second question by stating that the people that are majorly responsible for the change are the immediate family members of the youths. She said it is the responsibility of the parents to teach their children boundaries from a young age. This boundary is in relation to hours to be spent on games, social media and telephone. It was agreed by the audience that hours should be spent connecting with nature and discovering our natural resources. Useful suggestion included the need for a larger sample size to provide a thorough overview of the topic. The research should cover a wider scope as social media is an area of interest amongst the youth in all parts of the world. The chair opined that it would be easy to have youth who would be willing to take part in the research. In addition, the chair recommended the use of more variables and quantitative analysis to support the research. The research should cover a wider scope as social media is an area of interest amongst the youths and it would be easy to have people who would be willing to participate.

TITLE OF THE PRESENTATION: CYBER BULLYING AND COPING MECHANISM AMONG ADOLESCENTS

NAME OF PRESENTER: MS PRIYA

Cyberbullying with the use of digital technologies has become more rampant amongst youths. This type of bullying has become more wide spread as it can take place on social media, messaging platforms, gaming platforms and mobile phones. Ms Priya introduced the presentation by stating that the modern era has a strong focus on the use of technology which also supports education. She added that, the youths have taken advantage of technology to exchange ideas, share information and also socialise. The presenter shared that cyberbullying aims at spreading lies about or posting embarrassing photos of someone on social media. It also includes sending hurtful messages or threats via messaging platforms impersonating someone and sending mean messages to others on their behalf. She explained that the online environment dominates a significant part of the lives of the younger generation today and thus become a frequent place for peer abuse and bullying. The central idea of cyber bullying according to the presenter is to upset, shame those who are targeted.

The aim of the research conducted was to investigate whether the coping mechanism influences cyber bullying. The sample size for the research was 160 senior secondary school students of district Hoshiarpur Punjab (India). Data was collected through the use of self-prepared questionnaires by the presenter which she distributed to 80 boys and 80 girls. Ms Priya did her analysis through t-test and correlations. Based on her research findings, the presenter suggested that parents need to be realistic about their expectations from their children and there is a need to review their principles on parenting. She also recommended that engaging children in other activities that excludes the use of gadgets and technology could be helpful in coping with cyber bullying.

In conclusion, it was emphasised that cyber bullying can be neglectful or overindulgent or dictatorial or based on reasoning. Coping mechanism are learned behavioural patterns used in dealing with cyber bullying but good parenting can provide a safety net that supports adolescents in dealing with cyberbullying. The presenter was asked how many cyber bullying examples were identified in her paper. She responded by giving examples of three. It was recommended that the presenter explores others districts to do a more robust investigation on cyber bullying and coping mechanism among adolescents

TITLE OF THE PRESENTATION: IMPACT OF COVID-19 ON SUSTAINABLE DEVELOPMENT GOALS

NAME OF PRESENTER: MS SANCHIKA TANEJA

The coronavirus outbreak came to light on December 31, 2019 when China informed the World Health Organization of a cluster of cases of pneumonia of an unknown cause in Wuhan City in Hubei Province. Subsequently the disease spread to more Provinces in China, and to the rest of the world. The virus was named SARS-CoV-2 and the disease is now called COVID-19. The World Health Organization on 12 March, 2020 announced that COVID-19 can be characterised as a Pandemic. From this time, normal lives during the pandemic came to a standstill and according to the presenter, the impact of the deadly virus was wide spread even to the remote areas of India. Sanchika gave an insight to the severity of the Covid-19 pandemic by providing an economic model explained by John Maynard Keynes which stated that there is direct relationship between demand, employment, poverty and economy. She added that considering the current pandemic situation the world is facing, the lockdown is acting as disruptions in economic activities, the result of which can be seen on the negative demand for commodities which has affected the development of sustainable development goal. The scope of study, sample size and research methodology were not provided in the presentation but the presentation gave a general overview of how the COVID- 19 pandemic has impacted on India's economy and caused considerable human suffering and economic disruptions.

She rounded up her presentation by providing some suggestions that India should develop creative strategies to ensure that all children have sustainable access to learning during COVID-19 pandemic. She added that Indian policies must include various individuals from diverse backgrounds including remote regions, marginalized and minority groups for effective delivery. In addition to this, immediate measures are required to reduce the effects of the pandemic. The participants commented that the topic presented was one that was close to people's hearts as the pandemic impacted their lives in one way or the other. The topic was said to be quite vast. A question was asked if the Impact of COVID-19 on Sustainable Development Goals was investigated in other areas other than India and the presenter said information was gathered through secondary research but the literature review was not provided in the presentation.

The chairperson recommended that information should be provided on research methodology as this was not evident in the research paper. One of the participants suggested that rewording the research topic to capture a specific area in India and the inclusion of clear objectives could make it easier for the presenter.

DAY 2 – PARALLEL SESSIONS 2C: SCIENCE

NAME OF RAPPORTEUR: HARSHA SUBHASHANA

TITLE OF THE PRESENTATION: A COMPARATIVE STUDY ON PHYSICOCHEMICAL STATUS AND DIVERSITY OF MACROPHYTES AND PHYTOPLANKTONS OF MANASBAL LAKE, KASHMIR, INDIA

NAME OF THE PRESENTER: MR JAHANGEER MOHD RESHI

The aims of the research were to study the physicochemical characteristics, phytoplankton diversity and distribution, factors responsible for variation in water quality parameters, overall pollution status of the lake, factors responsible for variation in water quality among the sites and conservation measures for the restoration of the lake.

The methodology was a qualitative and quantitative analysis of evidence found in and around the Manasbal Lake area of Jammu and Kashmir, India. In his presentation, Mr Reshi explained how human activities around the world affected the physicochemical composition of lakes. He has selected the Manasbal Lake area of Jammu and Kashmir, India, for the study. Water samples from six sites of the lake were taken for the study. He showed several photographic evidence to prove human intervention as the principal cause of the changes to the physicochemical status and diversity of Macrophytes and Phytoplanktons of the Manasbal Lake. The pictures indicated wastewater drainages leading to the lake, rubbish dumping in the lake area, Macrophytic growth etc.

He has used several other parameters to study the impact, such as seasonal variations of temperature, pH level, electrical conductivity, dissolved oxygen, transparency, and the presence of phytoplankton communities in the water samples. All samples have shown temperatures between 5 and 10 Celsius during winter, 10 and 15 during spring and autumn and 20 and 25 during summer. Samples 3, 4 and 5 have had relatively higher pH levels compared to the other three samples, and there has been no significant effect due to seasons. Transparency of the water has been mostly below one meter in all the samples in all seasons except in sample 4. That has been between 4 to 5 meters. Electrical conductivity has been between 300 to 450µS/cm in all samples in all seasons. Dissolved oxygen levels have been as low as four mg/L in winter and as high as 8 in summer. He has identified the presence of six different Phytoplankton verities in samples. Their growth is more significant in summer in all six samples. It was concluded that Manasbal Lake has ecologically reached a critical stage due to cultural eutrophication. This has occurred due to anthropogenic pressure, siltation, garbage dumping and untreated wastewater.

The study recommended to do frequent dredging and de-weeding, rehabilitation of a lake, de-silting of the lake in the selected areas in regular intervals, construction of silt traps, steps and constructed wetlands at the entry of incoming drains and sewage, strengthening/ formation of the bund, public awareness and public participation through formation of committees with local people, prevention of pollution from point sources by intercepting, diverting and treating the pollution loads (sewage, agricultural runoff) entering the lake, regularisation of limestone extraction, bunding, fencing, shoreline development, and creation of facilities for public recreation and entertainment (children Park, boating, etc.).

TITLE OF THE PRESENTATION: SPECIAL ISSUE OF CHEMISTRY TEACHER INTERNATIONAL ON GREEN CHEMISTRY AND SUSTAINABLE DEVELOPMENT

NAME OF THE PRESENTER: PROF JAN APOTHEKER

Prof Apotheker started the presentation by explaining the importance of educating the teachers on green chemistry and sustainable development education. His presentation is on the special issue of the chemistry teacher international journal on green chemistry and sustainable development. The journal has been introduced with several objectives in mind, such as bridging the gap between research and education, creating a platform for activities in education, and building an international journal not linked to a specific area or nation.

He then presented some salient features of the journal. They have made the journal open access to provide access to everybody interested in knowledge without discrimination. It is also available internationally. The articles are peer-reviewed and applicable for teaches at all levels and researchers in chemistry education. Access to the journal is readily available at a nominal processing charge, and there is no subscription fee. Authors from emerging economies are entitled to reductions of 50%-100%.

He also presented the editorial board with their names, email addresses, institutions, countries and regions. The sources for articles are International Conference in Science Education, European Conference on Research in Science Education, Network for Inter-Asian Chemistry education and African Conference for Research in Science Education.

They have started the journal in 2019, and volume one has had 2 issues. Volume 2 in 2020 has had two issues, and 3 in 2021 has had 2 so far, with another 2 to be published. In total, there have been 82 articles and they have come from 27 different countries. 15 each have come from authors of Germany and the United States and authors of other countries have sent less than five articles. The journal has been accepted by SCOPUS, EBSCO and applied by SSCI. There have been three special issues so far, and the titles have been polymer science, green chemistry and chemistry & visualisation. In relation to the theme of the journal's current issue: the green chemistry and sustainable development goals, he then presented the authors' names and the titles of their articles so far received.

As the final part of his presentation, Prof Apotheker presented the focus of the articles. He said green chemistry addresses future challenges in working with chemical processes and products by inventing novel reactions that can maximise the desired products, minimise by-products and eliminate the production of harmful substances in designing new synthetic schemes that can simplify the operations in chemical productions. So, the focus areas are life cycle analysis, cradle to cradle and alternative pathways for production.

DAY 2 – PARALLEL SESSIONS 2D

RAPPORTEUR: DR DOLLY JACKSON-SILLAH

TITLE OF THE PRESENTATION: AN EMPIRICAL STUDY OF THE RELATIONSHIP BETWEEN VACCINATION IN INDIA AND NIFTY PHARMA INDEX

NAME OF PRESENTER: DR ANUPAM KARMAKAR

Dr Anupam Karmakar's presentation focused on the rise in share prices of the Nifty Pharma Index after the COVID Pandemic. This index measures the performance of the top 10 pharmaceutical companies enlisted on the stock exchange. He started by ranking the pharmaceutical sector as having a heavy global presence after the software industry, making it an important industry worthy of further investigation. The main objectives of the research were to determine the trend of the Nifty Pharma Index during the second wave of the pandemic and to find a correlation between the Nifty Pharma Index and the number of vaccinations during the second wave.

The presenter analysed historical data from https://in.investing.com which highlighted share prices from Jan to May 2021 as well as predictions from June to September 2021 using time series and correlation analysis. The findings suggested a dramatic rise in the Indian Pharma Index price in April 2021. While the Indian pharma market grew by 51.5% in April 2021, Acute therapy sales grew by 75.2%, chronic therapy sales grew by 24.2% and sub-chronic therapy sales grew by 53%. Industry's volume grew by 34.5%. t=this rise was after a sharp decline from January to March 2021 after the first wave seemed to have subsided. There was a positive linear relationship between the number of vaccinations and the Nifty Pharma Index price between April and May 2021 with a correlation coefficient of 0.762298. There was a strong positive correlation between the Nifty Pharma Index price and the number of days of the second wave, the cumulative number of vaccines and COVID cases.

The presenter concluded that the Nifty Pharma Index in the second wave was higher than in first wave possibly due to the launch of new COVID medicines, vaccinations, and the unprecedented surge in demand for all medical products though there had been small deviations in the index price, which may be due to investor sentiments and the short-term scarcity of medicines. During the question time the audience wanted to know of any comparison of the Nifty Pharma Index price with the pre-pandemic levels to ascertain the overall influence of the pandemic. The presenter indicated the data did not consider the price index before the pandemic but it is still relevant for individuals who want to make investment decisions.

TITLE OF THE PRESENTATION: MOTIVATION AND WORK CONDITIONS OF HEALTHCARE WORKERS

NAME OF PRESENTER(S): RICHA SAHAY AND DR ANUPAMA VERMA.

The presenter stressed the importance of healthcare workers during the pandemic and the need to keep them motivated and improve their working conditions. They highlighted information from secondary sources that suggested that health care workers had a high job demand, were burnt out, faced uncertainties and stigmatisation and also faced mental health issues from anxieties surrounding future litigations from the rationing of scarce resources.

The research investigated the motivation and prevailing work conditions of 84 health care workers from March to June 2020 in Delhi, Mumbai and few cities of the state of Jharkhand, using Google forms. The questionnaire was designed to explore their, motivating factors (job security, workload, adequate staffing, training and personal health) and factors concerning the prevailing work conditions (workload distribution, workplace Safety, workplace ventilation, discomfort with the use of PPE) during the 1st wave of COVID-19. Descriptive statistics (mean and standard deviation) were applied that were analysed using PSPP Statistical Analysis Software.

This finding of the study focuses on the necessity of adequate work conditions and safety for enhancing the motivational levels of the health care workers. Over 69% of healthcare workers testified that they often or sometimes experienced high workload while over 50% confirmed their workplace was safe and well ventilated. Over 53% were concerned about discomfort but these factors had a negligible impact on the motivation of healthcare workers during the first wave of the pandemic. Neither is the location of their workplace an influence on their level of motivation.

The presenters concluded that adequate motivation and working conditions are indispensable for a better performance and retention of healthcare workers. Better management of work conditions and health care workers' motivation is required for the continuing pandemic of COVID-19. This study was limited by the small sample size which occurred due to the poor response rate. Hence the results cannot be generalised to all healthcare workers.

TITLE OF THE PRESENTATION: SELECTION OF MOBILE APPS FOR CHILDREN WITH AUTISM SPECTRUM DISORDER DURING THE PANDEMIC

NAME OF PRESENTER: MS VIVIANE CRISTINA MARQUES

The presentation started with a description of the context of Brazilian education during the pandemic, when classes were suspended and digital learning resulted in poor development of teaching and learning resources which resulted in poor quality learning. Digital learning needs to be meaningful, collaborative, creative and should expand learning opportunities. The presenter defined Autism Spectrum Disorder (ASD) as a neurobiological condition characterized by severe and invasive damage in the areas of interaction and social communication with the development of behavioural problems and increased anxiety and stress. She confirmed that digital learning is widely recognised as a promising means of implementing an inclusive educational system for children with ASD, but teachers in Brazil face obstacles. The research was aimed at mapping and systematization of mobile apps for children with ASD. Apple Store and Google Play were surveyed to find suitable APPs for children with ASD. The 81 applications were identified, and 51 were selected, of which 23 are open access (free) and 28 limited access (free and paid). The APPs were appropriate for the audience and had very simple operational systems than laptops or desktops. Broad categories of APP included those on educational games, aimed at literacy and the development of reading and writing (eg Tinytap and Little Genius for Maths); apps aimed at developing social and emotional skills; applications for pairing, communication (Tippy Talk, See Touch and Learn, Commboards Lite) and intellectual development and for routine organization. The apps had intuitive interphase to facilitate interaction. Some of the content is gamified to encourage the user to perform the tasks. The APPs that are related to emotions are structured from narratives providing greater contact and communication between the user and the device and the content. Alternative communication applications have different options, providing choices that help the user to identify themselves. The presenter concluded that the categories with the most development of games and apps for children with ASD are aimed at the early stages of education, communication, routines, social skills and emotions. Applications for students with ASD are considered assistive technology resources and can be used in educational processes and for the development of different skills.

During the question time, the audience asked about affordability and accessibility to these apps by all Brazilian children. The presenter indicated that smart mobile phones with internet access are very common in Brazil and are owned by all adults hence the issue of accessibility will not be a problem.

DAY 2 – PARALLEL SESSIONS 2E: MANAGEMENT, MATHEMATICS & LANGUAGES

RAPPORTEUR: ALFRED ANIM AGYEMAN

TITLE OF THE PRESENTATION: DIFFERENT APPLICATIONS OF TRIGONOMETRIC SPLINE CURVES

NAME OF PRESENTER: DR URVASHI MISHRA

Trigonometric spines have recently gained popularity in many interesting applications in problems involving geometric modelling and it has been observed that many problems of surface modelling could be better handled by trigonometric splines especially those relating to data fitting on spherical object. The possible applications of the trigonometric splines have led to the introduction of various types of trigonometric splines with different features suitable for CAGD applications and as a unified mathematic model with many desirable properties, spline functions can be applied very conveniently in modelling free form curves and surfaces.

Dr Urvashi Mishra, states the objective of the study as - to find spline function approximation techniques as a powerful tool in the field of Computer Aided Design and Computer Graphics and to construct some spline curves and surfaces with a good range of shape parameter that provide local control, sufficient continuity and possess satisfying shape preserving properties.

The paper examined different types of Trigonometric Bezier Spline Curves- Trigonometric Polynomial B-Spline Curve with A Shape Parameter, Quasi-Cubic Trigonometric, Tension Quasi-quintic Trigonometric B´Ezier Curve and Trigonometric Bezier Curve with a Shape Parameter and its application. There was an insight into the different calculations associated with the curves and shows the WAT Bezier Curves with Different Values of Shape Parameter & the representation of Cycloid and Sine Curve with WAT- Bézier Curves.

The paper explores and present the construction of open curve and closed curve as the most basic content of curve design. The curve has local control due to the small support and a change of one control point will alter at most three segments of the curve. Hence, local adjustment can be made without disturbing the rest of the curve making it convenient, economical and very easy to implement and the curves visually pleasant.

In conclusion, the methods described in the paper has the potential of providing a new class of mathematical theory for application software development of CAD/CAM, in the manufacturing industry, computer graphics, computer vision, computer animation, multimedia technology among others.

TITLE OF THE PRESENTATION: SUSTAINABILITY CONSCIOUSNESS - A STUDY ON ATTITUDE OF UPCOMING BUSINESS LEADERS TOWARDS SUSTAINABILITY

NAME OF PRESENTER(S): MS. DIVYA JUNEJA AND DR SUKHJEET KAUR MATHARU

The presentation starts with the introduction of a conceptual framework on sustainability adapted from Elkington which looks at the interaction between the environment and organisations in the form of a "Triple Line Approach"- Social sustainability, Environment sustainability and Economic sustainability as three major components of sustainability. Dr Sukhjeet Kaur Matharu introduced the aim of the paper as measuring the attitude and opinions of Young upcoming business leaders towards Elkington's "Triple Line Approach" of sustainability as well as identifies the relationship of demographics that includes gender, work experience and specialisation they have opted as major in their Masters. A primary research approach was adapted and using judgmental sampling, 300 MBA students from Chandigarh and Punjab Cities were selected for the study. A structured 2 section questionnaire- consisting of questions on demographic profile and questions seeking the responses on various aspects about sustainability in business and a five point Likert scale was used. Data collected was analysed using SPSS and the Cronbach alpha coefficient to test its consistency and subjected to factor analysis on consciousness about sustainability.

Ms. Divya Juneja stated the findings as no significant difference in the opinion of male and female towards the Social and Economic aspects of sustainability and no significant relationship between the gender, age, work experience and specialisation and sustainability awareness amongst the students. However, the findings showed a significant difference between the opinion of males and females towards environment aspect of sustainability.

The advancement in the use of technology, remote working and advancements at workplaces, the concern of leaders has generally shifted from sustainable development to competition and technological achievements which is reflective of the moderate awareness of the students about the social, environment and economical components of sustainability. On the plus side, students were found to have higher awareness towards the social component of sustainability which is an indicator of the orientation of upcoming leaders towards CSR activities, by which societies will benefit.

There was a discussion on the reasons for the significant difference in females towards the environment aspect of the sustainability. The presenter, answered by saying women with their maternal and nurturing instincts are by default caring to nature and things associated with nature. However, the conclusion was that, all decisions made on all aspects of sustainable development will have an expectation of all genders contribution and action.

TITLE OF THE PRESENTATION: IMPACT OF HIGHER EDUCATION SYSTEM IN DEVELOPING ENTREPRENEURSHIP SKILLS.

NAME OF PRESENTER(S): MS RISHIKA BOJWANI AND DR MUKTHA MANOJ JACOB

Entrepreneurs are generally seen as the backbone of economies globally. The idea of becoming an entrepreneur may not be for everyone especially those graduating from business schools but it remains one of the most needed element of any economy, whether it's a recession or things are really thriving. In addition to being a catalyst in creating new businesses, entrepreneurial competence fosters the entrepreneurial way of thinking, as well as more efficient use of creative potential and existing knowledge and skills. There is a growing concern in the education system that it is not adequately preparing its students for the challenges of the knowledge-based society and there is also a lack of adequate professional and entrepreneurial knowledge, skills and attitudes in employees. Hence, the paper seeks to explore the need to develop entrepreneurial competencies in higher education and to study the impact of higher education on development of entrepreneurial skills.

To achieve the set aim, the research study was done through two types of data i.e. primary data and secondary data. Primary data was collected through a structured questionnaire administered to a total 110 students currently pursuing a Master Degree from a university in India. The research develops and test a hypothesis as to whether the significant difference in the development of Entrepreneurship skills across the gender of the respondents and significant difference in the development of Entrepreneurship skills across the stream of graduation of the respondents. In testing the reliability of the data, Cronbach's alpha test, Descriptive, Anova F test and Friedman's test was conducted to test the Hypotheses using SPSS software. The conclusion of the test was that there is no significant difference in the development of Entrepreneurship skills across the gender of the respondents, however, there is a significant difference in the development of Entrepreneurship skills across the post-graduation course pursued by the respondents.

Higher education institutions are required to demonstrate the ways in which their students respond to the social and economic needs of society and it is imperative on institutions to orchestrate innovative and creative ways of developing the skills using a 'holistic' approach.

A question on the curriculum development for entrepreneurship courses involving employers was asked. The presenters stated that there is a freedom in the development of the curriculum to embed the research findings to enhance the development of entrepreneurship skills at the postgraduate level.

TITLE OF THE PRESENTATION: THE TEACHING OF MATHEMATICS AS A HUMANIZED AND ENCULTURED PROCESS FOR SUSTAINABLE DEVELOPMENT

NAME OF PRESENTER: PROF ZINGISWA M M JOJO

Mathematics as a subject of study has evolved over the years and is no longer seen as an absolute corpus of well-founded knowledge but as a human activity, a social phenomenon, part of human culture and intelligible in a social context. Professor Jojo, in her background introduction stated that mathematics is a human activity that happens as humans mathematize the word, and it leads to the creation of mathematical objects, including concepts, models, tools, strategies, symbols, and algorithms. Mathematical problems should be designed based on sustainable development goals creating the need for resources used in the teaching of mathematics to be more useful for learners and with the ability to develop teachers' skills and creativity in designing neighbourhood specific problems.

Using the five dimensions of a powerful mathematics classroom as an underpinning concept, the paper adapts a mixed methods approach in an attempt to answer the question, 'How can mathematics in the senior phase be taught as a subject that embraces culture for sustainable development". Based on a stratified random sampling, a sample frame of 60 teachers in the Bizana district in South Africa was used for the study using questionnaires and observations and semi-structured interviews were conducted with four teachers based on their responses in the questionnaires. Graphical presentations were adapted in the data analysis as well as the adaptation of Miles and Huberman (1994) technique of data analysis to analyse the data collected from the observations and the interviews.

Findings from the research highlighted the need for teachers to avoid providing detailed step-by-step instructions for solving problems, repetitive exercises, or detailed "recipes" for completing tasks that allow little room for learners to build on their current understandings and also encourage the use of mother tongue and visual representations in learning activities to promote the learners' development of their own meaning-making processes. The introduction of multiple meanings to each mathematical concept taught enhances its connections to culture for sustainable development and reiterates the saying that "Mathematics is not about numbers, equations, computations, or algorithms: it is about understanding". (William P Thurtson)

A question was asked on the rationale for the choice of the 4 teachers. It was brought to light that the teachers were from the same social economic condition background but from different schools within the Bizani district. It was also suggested that maths tutors must be trained on creativity of teaching maths as part of the human culture and in a social context.

DAY 2 – PARALLEL SESSIONS 2F: HIGHER EDUCATION – ONLINE LEARNING AND FUN

CHAIRPERSON: DR ALEXANDRA OKADA

NAME OF RAPPORTEUR*:* RICHARD OSEI ASIBEY-BONSU

TITLE OF THE PRESENTATION: CREATIVE GAMIFICATION AND FUN: POSSIBILITIES OF AUTHORSHIP, AUTONOMY AND COLLABORATION.

NAME OF PRESENTER: DR PAULA CAROLEI

Dr Paula Carolei of São Paulo Federal University, Brazil and Open University, Portugal, began the presentation with an explanation of gamification as the strategic attempt to enhance systems, services, organisations, and activities to create similar experiences to those experienced when playing games with the aim of motivating and engaging users through the application of game-design elements and game principles in non-game contexts; that is to say that gamification involves set of activities and processes to solve problems by using or applying the characteristics of game elements.

In an educational context, Mrs Paula explained that gamification of learning is an educational approach to motivate students to learn by using video game design and game elements in learning environments, which make games fun and motivate with the goal to influence behaviour and maximize enjoyment and engagement through capturing the interest of learners and inspiring them to continue learning.

She posited that the idea of fun presented in the creative gamification strategies meet Okada and Sheehy's (2020) perspective of fun in an interactionist and transforming logic considering individual dimensions (constructivist) with personal challenges to actions that involve collaboration and emancipation for social responsibility (interactionist partner). The presenter in reference to Carolei and Tori (2014) further asserted that collection of research studies have concluded that, gamification as part of persuasive system design commonly employs game design elements to improve user engagement, organizational flow and productivity, learning, crowdsourcing, knowledge retention, employee recruitment and evaluation, ease of use and usefulness of systems, physical exercise, public attitudes about alternative energy.

Therefore, the research's prior aim was to find out how creative gamification and fun could promote collaborative and emancipatory actions and attitudes to overcome the reactive, behavioural logic of gamification by promoting more authorship and creative proposals in which the fun is the tension to diversify perceptions and promote collaborative and emancipatory attitudes with social responsibility.

The quantitative research methodology was employed to analyse the data of a semi-structured and previously validated questionnaire with six hundred and twenty-five (625) research participants drawn from Portuguese, Spanish and English higher education students.

The data analysis sought to map controversies between more behavioural actions and more emancipatory fun proposals that involved games and gamification experienced by these subjects in the online context and the results highlighted as mapped tensions facilitate building elements for a prototype of a creative gamification framework, with a focus on creating scenarios, narratives and challenges, mobilizing the emancipatory and collaborative dimensions of fun.

TITLE OF THE PRESENTATION: THE CCS APPROACH AND FUN LEARNING: AN ANALYSIS OF RESEARCH DATA FOR INCLUSION

NAME OF PRESENTER: DR KLAUS SCHLÜNZEN JUNIOR

In the introduction to the presentation, Dr Klaus Schlünzen Junior of São Paulo State University, Brazil, explained that Fun Learning is a powerful holistic contemporary approach to learning in higher education which involve cognitive skill and the concept of stimulating the brain to create original thought. This is done by moving away from traditional learning skills and looking at familiar things in a different way and with a fresh eye aimed at nurturing the passion for learning and continuous development throughout life (Sternberg 2006).

The research was done in consideration of accessibility in strategies, resources and pedagogical actions in learning environments combined with the constructionist, contextualized and meaningful approach in the perspective of the principles of learning with fun in response to the social distancing measures imposed by the COVID-19 pandemic. Dr Klaus advanced that the CCS Approach to Fun Learning was adjudged the most appropriate teaching and learning tool because it is a pedagogical expertise in combination with the best education practices that help to drive motivation, flow, passion and engagement by using fun and innovative ways of learning with the objective of promoting the overall well-being of students and educators. It was further explained that, essentially, learning is the result of engagement and substance and no matter how important what we learn is, if we are not interested or motivated, effective learning will not happen. In this regard, Dr Klaus advocated that learning should fuel curiosity, foster creativity and encourage us to become lifelong learners, and the best way to achieve these intents is to make learning fun because when we enjoy and love what we do, it becomes a natural, spontaneous and organic activity.

Therefore, the innovative study which also aligns with the Sustainability Development Goals 4 (SDG4) has the scope of finding out how to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”, to reinforce the importance of considering accessibility in strategies, resources and pedagogical actions in learning environments consistent with the CCS approach and the principles of learning with fun. In this context, the study sought to analyse the perception of educators concerning the relationship between diversity, inclusion and fun learning with reference to the assumptions of the CCS approach. As part of the Online Learning and Fun (OLAF) project, a questionnaire was applied to 897 students, teachers, lecturers, and other stakeholders in 7 different countries between November and December 2020 and the results demonstrate that among teachers and lecturers, 96% agree that students and teachers/lecturers should participate together in learning in diversity since diversified pedagogical strategies help promote open, more meaningful and engaging learning.

TITLE OF THE PRESENTATION: THE PLEASURE OF LEARNING: THE VISION OF COMPLEX THINKING

NAME OF PRESENTER: DR ANA MARIA DI GRADO HESSEL

The pleasure of and the vision of complex thinking skills are often characterized on a continuum of levels whereby lower levels of thinking are described as simpler (memorizing, identifying, etc.) than higher levels (synthesizing, judging, analyzing, etc.), and therefore, differentiating curriculum to increase the complexity of the thinking involved means the learning process will emphasize the use and development of higher level thinking skills such as creative and critical thinking, problem solving, concept development, conflict resolution, moral and ethical reasoning and analysis.

The need to put the pleasure of learning and complexity of thinking at the heart of education has become a common vision in schools, educational communities and organisations. The presenter; Dr Ana Maria Di Grado Hessel of Pontifícia Universidade Católica de São Paulo/ Brazil, commenced the session with the evidence that a disruptive scenario took shape in the context of pleasure for educational experiences in the view of the need to adopt innovative online education in the context of the COVID-19 pandemic which called for changes in educational delivery to sustained the pleasure of individuals to learn. She theorised that individual learners faced challenges and the need to search for innovations in teaching and learning become a priority goal to cope with understanding and promoting the pleasure of learning.

The study therefore has the principal goal of proposing a discussion based on complex thinking with the aim of presenting a reflection on a pandemic reality. The research literature focuses on the concept of understanding in the context of complex thinking complemented by the concept of meaningful learning as the filters to support the interpretable analysis of the research data under the notion of seeing human phenomenology within a historical context and meaning, and to reflect on the conditions in which the pleasure of learning can occur in the context of online classes through the following developments: what senses and meanings are present in learning; in what extent the relationship between theory and practice contributes to meaningful learning; how didactic and methodological strategies are valued in pleasant learning experiences.

The study has adopted a qualitative research methodology approach with data being collected by means of a digital form in the OLAF survey and participants selected based on the educational level of educational qualification (in this case it was the under graduation). Students (71) responding to a questionnaire, from different undergraduate courses at PUC / São Paulo / Brazil through the online survey OLAF - Online Learning and Fun, and the results discussed in order to highlight the identified relationship between the individuals' perceptions of the pleasure of learning and the concepts of understanding in the systemic/complex dimension and meaningful learning.

TITLE OF THE PRESENTATION: ALGORITHMIZATION OF HAPPINESS OR THE RECONSTRUCTION OF THE HUMANIZING NATURE OF NUMBERS?

NAME OF PRESENTER: PROF DR FERNANDO ALMEIDA

Algorithmic thinking is the use of algorithms, or step-by-step sets of instructions, to complete a task and therefore teaching students to use algorithmic thinking prepares them for novelty. Building on this view, Prof Dr Fernando José de Almeida of Pontifical Catholic University of São Paulo, Brazil, began the presentation by identifying the issues predicating the research study as an Online Learning and Fun (OLAF) research context, which brings together many institutions to understand the meaning, relevance and potency of learning that is considered "fun, pleasurable and meaningful" with emphasis on learning and educational activities taking place during the Covid-19 pandemic. According to Dr Fernando, Brazil over the past 5 years has produced and experienced the symbolic and concrete violence that stems from neoliberal thought, the negation of science, of fact substituted for the "post-truth", and the manipulation of data on social media that has necessitated education to take place through online activities resulting in youth who are fluent in technologies.

The study therefore sought to analyse student's voice regarding their online classes, through the lens of Paulo Freire's (1997) theoretical principles utilizing the concept of algorithmization which affects education and ideas of emancipation, liberty, and social transformation through education with much emphasis on the concepts of transformational education developed by Freire and concepts by Vieira-Pinto (1995), Zuboff (2020) Levitin (2019), Morozov (2020) and Sadin (2016).

Asking the question; "What are the conceptual paths for the reconstruction of the humanization of education that go beyond the algorithmization of happiness?", the research objective of analysing and shedding light on the constitutive elements of the process of algorithmization of "happiness" and its reflexes on education to gather, through the students' voices, paths for the construction of its humanizing nature. The research methodology involves a theoretical debate, as well as qualitative analysis of the answers to a questionnaire about fun learning with participants consisting of almost 70 students in undergraduate courses at the Pontifical Catholic University of São Paulo, who answered the questionnaire in 2020.

The research findings, according Prof Dr Fernando, indicate that students understand that its pleasurable and fun to engage in situations that involve a challenge, group projects, interactions between teachers and students, when they feel respected listened to and valued.

In his conclusion, Prof Dr Fernando posited that educational institutions have the responsibility to produce an understanding of the universal nature of knowledge and different ethical, economic, aesthetic, and scientific dimensions of social life that permit regenerations to have access to such tools, in creating sustainable projects development project for society through technology that presents itself in an ambiguous role of web that at times can induce a world of consumption and surveillance, and in other moments it has the potential to create solidary and humanizing networks.

DAY 2 – PARALLEL SESSIONS 2F: HIGHER EDUCATION

NAME OF RAPPORTEUR: LYDIA MIREKU

TITLE OF THE PRESENTATION: SHOULD 'MEANINGFUL' ONLINE LEARNING EXPERIENCES BE FUN FOR HIGHER EDUCATION STUDENTS IN INDONESIA?

NAME OF PRESENTER: PROF KIERON SHEEHY

Prof Kieron's presentation started with a discussion on the background of the research. He mentioned that due to COVID 19 Pandemic, many universities have adapted their curricula to promote online learning. Therefore, understanding factors that influence learners' engagement and enjoyment with online studies has become paramount for many educators, and their students, for the first time. He added that being responsive to students' views about their learning and fun is an important part of developing online pedagogies that might support learner well-being. The researcher focussed on 2 factors to consider in learning: Epistemological beliefs which is an established body of evidence to show the influence of these beliefs on students' study strategies and their academic outcomes. In relation to happiness and fun he mentioned that fun and learning are mutually exclusive entities and that fun is a fundamental aspect of pedagogy. He further mentioned that there is the need for 'non Western' research on emotions and learning as this will help to predict how students study, find relation between their beliefs and academic outcomes. The fun aspect is quite controversial and has effect on students learning. He presented the theoretical principles, variables and statements from respondents. The principles included Socio-constructivism, Constructivism, Traditional, Banking and Fun. The researcher highlighted the key points of epistemological beliefs. He said, students believe that learning occurs through social and collaborative process. He also mentioned that majority believed that thinking and reasoning are more important specific content. The key points highlighted in his presentation were that nearly all (94%) students believe that learning occurs through social and collaborative processes. Furthermore, it is through social activities that meaningful learning occurs. Not only are collaborative and social activities effective for learning but they are also fun. He added that the epistemic mismatch explains the majority dislike online study as only 10% liked it. It was further highlighted that others believe that happiness is essential and part of learning.

The conclusion drawn by the researcher was that educators should consider epistemic match in developing online materials to improve engagement and outcome. For Indonesian students this might develop social and collaborative pedagogy as they believe that this type of pedagogy produces meaningful learning and fun.

TITLE OF THE PRESENTATION: HIGHER EDUCATION IN PANDEMIC TIMES: PERSONALIZATION, ENGAGEMENT, AUTONOMY AND NEW LEARNING STRATEGIES

NAME OF PRESENTER(S): DR DANIELA BARROS, DR ADRIANA APARECIDA DE LIMA TERÇARIOL, MS ELISANGELA APARECIDA BULLA, IKESHOJI, DR VANESSA MATOS DOS SANTOS, DIENE EIRE MELLO, DR MARCOS ANDREI OTA, DR ENIEL DE ESPÍRITO SANTO

Dr Barros introduced the topic and her colleagues and took the audience through the content to be covered in her presentation. She explained that a massive, distant, transmissivity and unattractive learning modality for students can cause lack of autonomy, lack of interest and, as a consequence, non-engagement of students. The researcher stated that the study focused on examining recommendations for the promotion of an engaging online education for sustainable and fruitful dynamics as ways of co-learning.

In relation to innovation, she mentioned that most recent literature have indicated that new approaches to learning are being grounded in diverse perspectives according to needs and preferences for the process of adapting to the conditions and profiles of students.

The qualitative exploratory study collected data generated from an open online questionnaire implemented by the UAb-PT network which was aimed at students for a period of three months in higher education in Portuguese-speaking countries (Brazil, Portugal and Angola). To analyse data, the researcher adopted the technique called Collective Subject Discourse (CSD), which allowed the grouping of testimonies and their respective synthesis. In total, the researcher analysed data from 625 responding students. She presented the results in two parts. The first was the following teaching strategies recommended by students to be adopted by educational institutions: synchronous sessions, support and feedback from the teacher, diversified activities, creative content to motivate students to deepen their studies. Students who are looking forward to engage in online learning are more open to experiment with activities and engage in others. It was added that it is possible to see students' perceptions about behaviours and beliefs associated with fun learning, which promotes student engagement and involvement in online learning, improving their performance. In relation to students' issues that hinder online learning, distancing them from engagement and involvement with their learning, some of the comments given by students included: the lack of contact with teachers to discuss, debate, clarify doubts, outdated content, undiversified activities, excess activities and the lack of clear procedures for the development of the activities made available. She added that distance learning can be potentially lonely and isolating, however, the student needs to identify the factors that hinder their involvement in this process, seeking alternatives, discovering how others act in the face of challenges and, thus, expanding the list of alternatives in search of overcoming the difficulties. For results 2, constructivists, socio constructivist and optimal flow didactic strategies, the pedagogical resources and technology used were discussed in which brainstorming (constructivist), discussion, collective writing (socio-constructivist), challenge and inverted class (optimal flow) were listed under pedagogical resources and concept maps, webquest, mentimeter, quizzes (constructivist), forum, chat, social apps (socio constructivist) , games, padlet and comics (optimal flow) were listed under technology.

The conclusion drawn was that fun online learning should include the use of technologies, collaborative, individual, networked for colearning with different activities and exercises according to the needs and preferences of using virtuality. According to the researcher, this type of approach personalizes learning according to the student's profile, allows more engaging and fun.

TITLE OF THE PRESENTATION: LEARNING EXPERIENCE DESIGN AND ACTIVE METHODS FOR STUDENT FUN, PLEASURE AND ENGAGEMENT IN ONLINE COURSES

NAME OF PRESENTER: DR LUCI MELLO

Dr Mello commenced her presentation by introducing her topic and explained how it originated. The aim was to find out how to make online education proposals more pleasurable, fun engaging and enabling improvement of desired objectives based on a learning experience design instrument. The purpose of her research was to know and understand which activities are carried out in online courses that students find fun and pleasure that make them engage in the learning process. The researcher further presented the framework, highlighting the importance of combining all the elements (Evidences, Methods, valuation strategies, types of student participation, teacher student interactions and non-human digital technologies) to achieve specific learning outcomes for the learner. The research questions were: what are the didactic pedagogical practices considered fun and pleasurable by students which can provide the improvement of learning results? What are its structuring aspects and how can they be visualised, clearly known, monitored and adjusted? How to promote differentiated learning experiences for the improvement of the desired learning results? The evidence presented was that COVID-19 Pandemic which has led to physical isolation has raised the need to better understand, plan and implement which dynamics promote more fun and pleasure for students in order to engage them more in online courses offered.

The researcher pointed out that studies carried out on active pedagogy and dialogic education reflect the need to use real educational experiences to promote the consistent knowledge construction. She also emphasised the need to develop a planning tool that gives visibility to the demands for didactic pedagogical and communicational adjustments of active methods to promote student engagement through fun and pleasurable dynamics.

For innovative approaches, the researcher pinpointed protagonism and types of participation under which she discussed planning, communication, exchange of ideas, problem solving and formative assessment. She further discussed the use of active methods, dialogic education, enjoyable activities, social presence and engagement as other approaches and strategies to be used to promote fun, pleasure and learner engagement in online learning.

The researcher used qualitative research through content analysis, using a digital form composed of closed and open questions answered by undergraduate students. 71 from the different undergraduate courses at PUC / São Paulo / Brazil, participated in the online survey OLAF - Online Learning and Fun. The results obtained were analysed and weighted based on the relationships mapped between the fun and pleasurable practices reported by the students and the structuring characteristics of the active pedagogy, dialogical education and design instrument that can be adopted for their planning and execution. The data collected indicated that didactic pedagogical practices are considered fun and pleasurable by students which could provide the improvement of learning results. The researcher further highlighted that collaboration can help students to be engaged in learning and dialogic communication with students enhance the learning experience. She also highlighted that asking students to keep their camera on humanises the sessions.

TITLE OF THE PRESENTATION: MOTIVATION, INVOLVEMENT AND FUN IN THE ONLINE LEARNING PROCESS: PERCEPTION OF UNDERGRADUATE STUDENTS

NAME OF PRESENTER(S): DR ALEXANDRA GERALDINI, DR KARLENE CAMPOS, DR MARIO CESARETT

Dr Geraldini began by introducing her topic and her colleagues. She proceeded by explaining that social distance measures which was imposed by the Covid-19 pandemic prompted Higher Education Institutions to migrate the teaching processes to the online context, supported by digital technologies. She emphasised that education has been significantly affected, in such a way that new challenges are added to pre-existing difficulties which has made it necessary to reframe the teaching methodologies to promote greater student involvement and avoid school dropout. The researcher highlighted that the literature reviewed indicated that the presence of joy, fun and playfulness in the learning processes generate an increase in the retention of knowledge and an improvement in the learning results. Also, she emphasised that active learning methodologies contribute to students' motivation, involvement, better understanding and memorization of content. The research aim was to examine undergraduate students of PUC-SP to ascertain if fun should be part of learning, how they perceive fun online learning and how fun relates to involvement and motivation. The objective of the study was to check how undergraduate students at PUC-SP perceive fun learning and the extent to which it articulates with motivation and involvement. It was also to check whether, in their opinion, fun should be part of learning.

The researcher used Quali-quantitative approach and a Structured questionnaire (Likert) was administered with closed and open questions to students from different universities in Brazil and Europe. 153 respondents from Brazil, out of which 71 were undergraduate students. The corpus of the work was composed by 69 undergraduate students at PUC-SP. The data revealed that most students considered fun to be associated with learning and related fun learning to activities that promoted motivation and involvement. However, online learning experienced during the period of social isolation was considered fun by only 27% of participants. Considering the important role that fun and enjoyment can play in the learning process, the last data reiterates the already addressed need to reshape pedagogical dynamics and strategies at the University.

The researcher concluded that fun online learning must privilege interaction, be engaging and dynamic, use technological and audio-visual resources, use activities that encourage competition (quizzes, games, etc.), have short, non-expository, engaging classes, and finally have an engaging, kind and comprehensive teacher.

ABSTRACTS OF THE PAPERS PRESENTED AT THE CONFERENCE

DAY 1 – PARALLEL SESSIONS 1A: EDUCATION

SCHOOL IS NOT OUT FOR TEACHERS: CONTRIBUTION OF CONTINUING EDUCATION ON THE CAREER GROWTH AND DEVELOPMENT OF TEACHERS IN HIGHER EDUCATION INSTITUTIONS

Amit Joshi[1], [2]Priyanka Bhaskar, [3]Preeti Bhaskar,
[1]Assistant Professor, ICFAI Business School, ICFAI University, Dehradun, Uttarakhand, India.
[2]Assistant Professor, Doon Business School, Dehradun, Uttarakhand, India.
[3] Faculty, Department of Business Studies, Ibra College of Technology, Oman.

ABSTRACT

This paper focuses on the role of continuing education among the teachers of India. The study identifies factors which influence teachers in Higher education institutes (HEI) for continuing education. The paper also explores its impact on their career growth and development. A systematic survey was conducted among the teachers teaching in Higher education institutions of Uttarakhand. Factor analysis is used to identify the important factors that motivate the teachers to enrol for continuing education. The findings of the study indicate that factors like time, financial support, job opportunities, knowledge, skills, and abilities play a detrimental role among teachers for continuing education. Research results show that those Higher education institutions which provide time and financial support for continuing education make teachers loyal and committed to the organization. Teacher's personal intent on increasing knowledge, skills, abilities, and looking for better employment opportunities also motivate them for continuing education. This study also reveals that continuing education has a positive impact on career growth and development of teachers. Continuing education helps the teachers to explore better career opportunities, provides job security, salary increment, and promotion which contributes to their professional growth and personality development. Continuing education in teachers demonstrates a significant role in the development of interpersonal skills, technical skills and inculcates self-confidence that contributes to their personal growth. The importance of paper increases amidst the COVID19 pandemic and the launch of the National Education Policy in India, as the paper will provide support to the Higher education institutes and Government to frame policies and strategies to imbibe continuing education as an integral part of the education system. The paper by enumerating its benefits, motivates the teachers to enhance their qualifications and enhance their future prospects.

Keywords: Continuing Education, Career Development, Career Growth, Personal Growth, Education Sector, Teachers, Faculty.

SOCIO-DEMOGRAPHIC DETERMINANTS AFFECTING EDUCATION AND THE NUTRITIONAL STATUS AMONG SCHOOL CHILDREN AND ADOLESCENTS DURING COVID-19: IN CONTEXT TO INDIA

Antara Bose[1], Sanjoy Ghosh[2]
[1]Research Fellow, Department of Anthropology, University of North Bengal, District: Darjeeling, West Bengal, India.
[2]Assistant Teacher, Department of Science, Ishwar Chandra Vidyasagar High School, Bagdogra, District: Darjeeling, West Bengal, India.

ABSTRACT

Education and nutrition are among the most important related terms which coincide with one another as these two effects the growth and development of school children and the adolescent group. Nutrition can enhance the behavioral pattern in shaping an individual whereby increasing the attention span, psychological well-being as well as development towards motor and language skills. Nutrition-related micronutrient deficiencies lower the intelligent quotient thus diminishes the cognitive skills. The ongoing pandemic, COVID-19 in India had shifted to its second phase which had further caused continuity in schools, colleges, and universities closure, further fully shifting the traditional mode of learning to the digital online mode. The closure of school had hampered the mid-day meal scheme though take away of ration is indeed helpful, but on the other hand, the technology usage had increased which made the children and adolescents belonging to the poor household hard to access the internet facilities. Thus, the change in the present scenario has made the growing age group withhold the current challenges by coping up with both the educational changes as well as nutritional balance. The present paper highlights the current prevailing situation in context to the educational system and the nutritional relation among the school children and the transitional group. The paper further discusses the factors, causes, and consequences that have led to a challenging issue among the growing age groups.

Keywords: COVID-19, Education, Micronutrient Deficiencies, Nutrition, Technology.

GAUGING FINANCIAL LITERACY - A STUDY ON COLLEGE TEACHERS OF KOLKATA

Anusree Bose[1], Sayan Basu[2]
[1]Research Scholar, University of Burdwan, West Bengal, India
[2]Research Scholar, West Bengal State University, West Bengal, India

ABSTRACT

Financial literacy is essential for enabling people to make right financial choice. The term financial literacy refers to the set of skills and knowledge which enables an individual to make an effective decision regarding the financial resources. Hence financial literacy can be considered as a part of the elementary education system and as essential as the others day to day basic items. According to the OECD/INFE framework, measuring financial literacy essentially encompasses financial knowledge, financial attitude and financial behavior necessary to make sound financial decisions and ultimately to achieve individual's financial well-being. Therefore, Financial Literacy is requisite for financial inclusion. On the other hand, Digitalization in financial sector has resolved the whole scenario and consequently digital literacy become as essential as the financial literacy to make sound financial choice in the digital financial era and also has a great impact on financial inclusion. If awareness regarding the digital products and services are increased, the usage level would also shoot high which ultimately bring a significant change in the inclusion level and thus contributing towards the economic growth of the nation. The present study is basically intended to evaluate the financial literacy of the teachers of different colleges in Kolkata on the basis of age by applying the OECD/INEF Toolkit and further this paper is focused to compare the level of financial literacy on the basis of gender and educational departments of the colleges by applying the unpaired t-Test & One Way ANOVA at 5% level of significance respectively.

Keywords: Financial Literacy, OECD/INEF Toolkit, Independent T-Test, One Way ANOVA.

TARGETED EDUCATION FOR SUSTAINABLE DEVELOPMENT IN PRIMARY EDUCATION

Ashok Kumar Singh[1], Rashika Kumari Singh[2]
[1]Author, Head of Department- Commerce at Daly College, Indore, MP, India.
[2]Co-Author, Civil and Criminal Advocate at State Bar Council, Indore, MP, India

ABSTRACT

Sustainability is becoming an increasingly vital environmental, social and economic requisite. For sustainable development a continuous process of learning and research is needed to reengineer and apply innovation. Education for sustainable development (ESD) requires a practically oriented learning process. Children who embrace the principles of sustainable development at a rather young age have these principles ingrained in their malleable minds, thus enhancing their capacity to shape society in an informed, reflective and responsible way with a vision of sustainability for the future. This paper examines, from a global perspective, the role of inculcating ESD in primary levels of education. The paper will be divided into two main parts. The first part throws light on the importance of integrating ESD at primary levels of education. It also includes author's research on a group of primary students to study the effects of teaching sustainable habits for a month as a part of school curriculum and the findings of which validate the author's views. The second part elucidates the current developments in ESD at primary levels across the globe with due respect to its evolving nature. It will explore the ways in which the countries are inculcating ESD policies, initiatives and programs in education systems, especially in the curriculum of primary education with special attention to best global practices.

The paper draws upon journal articles, policy documents published by UNESCO and other international agencies, and several comparative databases reporting on ESD topics. It also bases upon a diverse array of national and regional documents.

The authors found that the developing brain of children is the most suitable phase to inculcate idea of sustainable development and allied issues. A large and diverse array of ESD initiatives has been implemented in primary schools around the world. These initiatives range from large-scale trans-national programs and national reforms to small community projects, from NGO initiatives across many schools to teacher-led projects in individual schools. Many ESD initiatives in schools primarily focus on the environmental components. Moreover, the coverage, scope and depth of sustainable development issues in school curricula have increased significantly. While policy attention to ESD has strengthened globally, many countries either lack an ESD policy or do not have a viable one. Limited financial resources and a weak global economy have inhibited the implementation of these nations, the reasons of which have been briefly discussed. It was found that support from stakeholders like parents, international donors, NGOs and the private sector is considered critical for the successful implementation of ESD.

VOCATIONAL EDUCATION AND ICT IN COLLEGES: A PROSPECT ON LIVELIHOOD PROMOTION FOR RURAL DISTRICTS IN NAGALAND

Azhanuo Peki, Research Scholar, Department of Education, Nagaland University, India

ABSTRACT

Vocational education is a sculpting practice that demands experience and proficiency to be mobilized. It is the advanced education and training which in today's context is the need of the hour for a developing nation when employment under the government sector cannot incorporate the thousands of graduates that qualify every year. Education should not be limited to theory and syllabus content but stand in order to serve as a tool to prepare each individual student in the colleges to pursue essential skills and knowledge regarding vocational courses and training. In addition, alongside the growth and progress of technology initiatives can be extended with the help of ICT in techniques and tools to assist and facilitate vocational education courses in delivering diverse growth concerning self-development, self-sustainability and self-independent for livelihood promotion. Incorporation of ICT with vocational education can build single individual graduates to back up in source of income by what has been studied and cultivated besides not exclusively dependent over government sector for income and employment. This paper is an attempt to put forth the different vocational courses and practices introduced for colleges in Nagaland. The Objectives behind implementing such vocation will be stated and besides the anticipated benefits of such practices will be discussed. The study is descriptive in nature and based upon available sources of data. Introduction of vocational courses and its practices in the colleges of the state is still a very new concept to most educators, students, administrators and even the society as a whole. Suggestions on mechanising vocational education and ICT awareness for further measures of improvement will be emphasized. The study is to call attention towards a productive, self-reliant and supportive job through the new paradigm of vocational education in association with ICT knowledge. Thus, this paper will be highlighting on how vocational education with ICT can be the prospective impetus in improving livelihood issues for a rural state like Nagaland, where on unemployment handicaps a massive number of qualified citizens every year under higher education sector and jobs are limited. Furthermore, it is an attempt to outline on approaches ICT can serve as a breakthrough in elevating vocational education true success for individual livelihood promotion and global knowledge sharing.

Keywords: Vocational, Livelihood, ICT, Colleges.

EDUCATIONAL SUSTAINABILITY – A HISTORICALLY LINEAR PERSPECTIVE AND ITS TECHNO FADS IN REALITY.

Dr Lt S Ravibalan, Associate Professor & Head, Department of English, S.I.V.E.T. College, Chennai, India.

ABSTRACT

History of modern education almost of necessity goes back, briefly to the work and contributions of ancient civilization. But have mostly failed to encourage the existence of moral values.

We teach, assess and try to reflect employable graduates that we hope to produce. We wish for a good intake of many students as possible to mastery who can collaborate, manage products, and solve problems. But we produce students who can recall facts or regurgitate by rote. Academic freedom and academic sustainability is forsaken with IRP (Institutional Rating Point) in mind. Education is now a factory creating an unbridgeable gap amidst the student's community. First generation learners and the downtrodden have got the exposure but failed to have an optimum utilisation of the source owing to many socio political predicaments. Many colleges and universities regard students as customers that need to be aggressively recruited. But a Learner's focus is totally forgotten. Mostly the curricula, schedules, pedagogies, assessments, and workload policies reflect the interest of departments rather than what we know about the challenges faced by today's growing number of non-traditional students. Despite the freebies in the education sector based on political manifestos the main purpose of education to a society has got diluted.

People play the most important role in shaping the status of the country but education is responsible for shaping a person. It is believed the higher literacy rate, the lower in unemployment rate and greater GDP growth. Apart from worrying about the growth of GDP, education should also transform a student to be handy. Living sustainably must nurture student's attitudes in the field of Agriculture production, health, Construction, Environment and moral values. It shall help all to transform our lives into something that doesn't impact too heavily on our current routines. To err is human and that's for education and experimentations but erring leads to a despicable living and a tumultuous society. Let the education be set on Baconian experimentation- truth is discovered through empirical observation and induction- and frees us from all the isomorphic clutches. It must create an overall educated sustainable mind towards the welfare of others rather self-centeredness.

Keywords: Purpose-Learner Centric – GDP Centred–Sustainability in Living-Handy – Baconian

HIGHER EDUCATION IN MAHARASHTRA: TODAY AND PARADIGM SHIFTS FOR NEW PATHWAYS

Ms Jayeeta Datta, Msc, NET, Assistant Professor, HoD, Geography, SPDT College, J B Nagar, Andheri, Mumbai, India.

ABSTRACT

Education means transforming of knowledge, skill, habits from one generation to other through the process of teaching and learning. Education is a major factor contributing to the process of national and individual development. It is defined as the investment of the current time and resource for future earnings. India has grown phenomenally in higher education during the last decade but there is long way to go. Maharashtra is the financial capital of India. The state is characterized by large youth strength; fast growing economy and emergence of knowledge play a significant role as an economic driver. The research present paper is an attempt to evaluate the challenges, problems and opportunities in higher education in national context while focus on the diverse issues of Maharashtra. The paper will assess the enrollment in different level of higher education in state and unfold the different challenges in higher education like expansion, inclusion and excellence.

Methodology/ Design: The methodology is mainly based on the literature review. Secondary data has been taken from previous research work and collected from books and internet sources. The pilot survey was conducted among the students under different higher education institution to analysis the satisfaction level and view about state higher education facilities.

Research Objectives: The main object of this research paper is to understand the higher education scenario in Maharashtra, opportunities to access the higher education, challenges faced by different stakeholders.

Research limitations: The present paper is focused in Maharashtra higher education and not compared with pattern of higher education with any other states in India. The primary survey also based on student's attitude towards the higher education paradigm not considers the view of other stakeholders of the society.

Practical Implementations: This paper will provide a pertinent policy recommendation in higher education. This recommendation on the basis of present scenario will surely help policy maker for achieving the excellence quality. The primary survey will review the student's opinion and their recommendation is highly acceptable for new pathway.

Keywords: Paradigm, Stakeholders, Enrollments. Pilot Survey.

DAY 1 – PARALLEL SESSIONS 1B: EDUCATION

TREATING THE ROOT SYSTEM: INTRODUCTION OF SUSTAINABILITY IN SCHOOL

Dr Madhumita Chanda, Assistant Professor, Heritage Institute of Technology, Kolkata, India.

ABSTRACT

Although the term "sustainable development" was conceptualized in the Brundtland Report in 1987, it had made its first appearance" in 1980. The SDGs were set up in 2015 by the UN General Assembly to be achieved by 2030. We all understand the 'why' of it. It is about 'our children and our grandchildren, and the world we will leave' for them. Therefore, building a sustainable world should start with us and must be viewed as a unilateral commitment. The present paper wishes to explore the 'what' and 'how' of it from an Indian perspective. We have strategized policies to help us reach the goals. Our world is like a wilted plant with a poorly functional root system. To save it from perishing we are perhaps treating the shoot system. It's time to realize that we just don't need policies, departments, strategies, fund, and goals but the right kind of people to execute them. An empirical analysis through the case study method will be adopted to support the findings that sensitization at the grass-root level brings about a positive behavioural change among the children. At the same time, it also indicates that education should aim at value creation. A revision of the process of education may help the present general appreciate the magnanimity of the situation. 'What' is required is the implementation of the new educational policy with a focus on value creation. 'Why' because we haven't been able to achieve anything substantial in all these years. We had data to apprise us of the situation and goals to pursue. A case study on reports furnished on CSR activities would be examined to show how some companies are unethically ploughing back the money they seemed to be investing in sustainable practices. Instances of value crisis! Out of the three dimensions of sustainable development, i.e., economic growth, social development and environmental protection, the biggest challenge arises from adequately attempting to secure the environmental and social dimensions, and integrate them with economic growth. Needless to say that economic growth remains the primary objective as our developmental model is unidimensional and continues to be driven by the economy. How can we strike a balance among all three dimensions? The problem concerns 'us'- the humans. The non-human elements of the world are not responsible for the ecological disbalance! We need to find the right direction to make the world a happy planet. If we succeed in solidifying our value system at the school level, the coming generation would adopt the sustainable mode of living naturally.

Keywords: Value-Creation, Sustainable World, Value Crisis, New Educational Policy.

ONLINE EDUCATION: PARTICIPATION OF FEMALE STUDENTS AND GENDER EQUALITY

Dr Mayurakshee Gangopadhyay, Assistant Professor, Department of Human Development, Dum Dum Motijheel College, Kolkata, India.

ABSTRACT

Due to pandemic online education is the only effective process to educate students and continue teacher-learner communication. But with its effectiveness there comes specific limitations like connectivity problems, unavailability of tools and infrastructure, language barrier, inability to produce performance based curriculum etc. which can be addressed with improvement of social policies. But there are more unrecognized problems in which one is the participation of female students and gender equality.

In the developing countries, female students are likely to get married after the legal age of marriage and is the rural areas most their families are only capable of feeding their children. Because of that, institutions and government have arranged policies to provide free education, food and scholarship to the girl child. Now, due to pandemic, institutions are closed and students do not have available logistics to access online education. They are residing in the home and helping other family members to run the family in this tough situation where earning money for day to day expense is very difficult. Many of them are starving and that will clearly have an impact on future dropout rate. Adding to this, family members feel that there will be no future of their girl child after this pandemic and they will fail to secure a job. So, it is better to arrange marriage rather than encouraging their daughter to participate in online mode education. These tendencies have a serious impact on the mindset of female students as they feel male students are superior in terms of right to education and are privileged. Also this study focused on the larger argument that whether a female student is comfortable in online discussion and the kind of reaction she gets for being a girl.

While researchers have provided data that participation of female students increased in online education (Secreto, Percia 2013), this paper argues that the study is restricted to urban areas and only states that the percentage of admission whereas the pass-out percentage can be different. On the other hand women feel more safe and free to express their views in online education (Alipour et al. 2011), but the possibility of discouragement in family should be noted equally. This study also aims to indicate the maximum limitation and deduce it to possible solution in its implication by which the present research contributes to narrow down the future paradigm for sustainable education.

Keywords: Online Education, Female Participation, Gender Equality, Sustainable Education.

IMPLEMENTING ED-TECH MODEL IN INDIAN INSTITUTIONS FROM TEACHERS' PERSPECTIVE: A CONCEPTUAL FRAMEWORK

Dr Minisha Gupta[1], Ms Preeti Bhaskar[2]
[1]Researcher, Quality Cognition Private Ltd, India.
[2]University of Technology and Applied Sciences, Ibra, Oman.

ABSTRACT

Purpose: With the emergence of fourth industrial revolution, every economy whether developed or developing are trying to adapt its paradigms. Every industry is trying to update itself as per the challenges of Industry 4.0. Educational institutions contribute in this process of industrial revolution by educating and developing talented employees who meet organizational expectations. Teachers being the major pillars are mostly responsible for educating and preparing the students about the upcoming expectations of the industry. Teachers with their knowledge, abilities, and skills implement Ed-Tech Model (Education and Technology Model) in educational institutions which help students in developing themselves in order to meet the current expectations of the industry. The main aim of this study is to exhibit the inhibitors to implement Ed-Tech model in higher educational institutions from teacher's perspective.

Research Methodology: The study has implemented Interpretative phenomenological analysis (IPA) technique to identify the inhibiting factor that influence implementation of Ed-Tech model in higher educational institutions (HEIs) of India. Semi-structured in-depth interviews have been conducted among the teachers working in HEIs of Delhi- NCR region. The interview duration ranges between 60 to 130 minutes. Data has been analysed by using steps suggested by Smith.

Findings: This study exhibited the four main inhibiting factor to implement Ed-Tech Model which includes Lack of Government Initiation, Lack of Organizational Support, Lack of awareness, and Lack of technological infrastructure. These inhibiting must be handled in order to ensure smooth implementation of Ed-Tech model in Indian educational institutions. It will also be helpful in meeting the expectations of the industry who always look for talented individuals in order to face the challenges of fourth industrial revolution. Ed-Tech model is not only important for improving the standard of education in educational institutes but also to meet the dynamically changing requirements of the industry.

Implications: The findings of the study can be useful for educational institutions both public and private while implementing the Ed-Tech model. With the changing scenario of teaching and learning, it has become important for educational institutes to understand the demands of industry and accomplish them by providing the talented individuals who can leverage upon their skills, abilities, and knowledge to generate novice and innovative solutions for organizational sustainable development.

Keywords: Conceptual Framework, Ed-Tech Model, Fourth Industrial Revolution, Industry 4.0, Indian Education Institutes.

HEUTAGOGY: AN APPROACH TO EMPOWER LEARNERS

Dr Monika Chopra, Assistant Professor, Department of Commerce, DAV College, Chandigarh, India.

ABSTRACT

In the world of technological advancement, bombardment of information & knowledge and digital & e-learning platforms, a person of any age group can enhance skills and competencies to adapt to meet personal, social, economic and professional needs. Since centuries, various traditional and formal educational techniques have been in practice to inculcate various life and career growth learning skills to survive in a competitive environment. In daily life, everyone comes across different opportunities to enhance their personal and professional skills. Organizations do conduct various training programs to upgrade their workforce with innovative and transferable skills. COVID-19 and work from home culture has put pressure on every person to sharpen their soft and technical skills. Primary, secondary and tertiary levels of learning revolve around curriculum and classroom teaching. Even in organizations, people resist changes and innovative techniques rather than gaining new ideas and concepts. Heutagogy is an innovative approach which is applicable not only in education sector but also in other areas of life. The term Heutagogy has its origin in the Greek word heuriskein and was used by Hase and Kenyon in 2000 emphasizing on self-learning without using formal methods of teaching. This method of learning focuses on learner's potential, capabilities, understanding, experience, skills and willingness to gain knowledge of the concept without any time constraint. An educational institution, commercial organization, sports institution, NGO, retired persons or even illiterates can make use of Heutagogy approach. This approach helps in preparing the future generations more independent, flexible, capable, knowledgeable and talented. COVID-19 situation has changed patterns, experiences, relevance and methods of learning. In an unpredictable and dynamic environment, this way of learning can prove to be fruitful, aiming at building the confidence and competencies of learners of any age. One can discover higher potential through self-learning and overcome various digitalization demands of the complex and uncertain work place situations. Heutagogy targets on individual needs and enables the learner to access the best learning content resulting in the cost effective solutions to overcome complexities. This paper aims to survey workforce across different organizations learning voluntary or work based skills as well as retired peoples' interest in lifelong learning through heutagogical approach in different geographical locations.

Keywords: Heutagogy Approach, E-Learning Platforms, Workforce, Learning Skills.

HOW TO ACHIEVE SUSTAINABLE DVELOPMENT GOAL 4: INDIA'S CONTEXT WITH NEW EDUCATION POLICY 2020

Dr Rimjim Borah, Assistant Professor, Department of Economics, Gargaon College, Sivasagar, Assam, India.

ABSTRACT

In today's competitive world, well-structured education system is one of the main instruments for achieving sustainable development of a country. Education is the key to promote knowledge, skills, values and attitudes of human resources for achieving a sustainable society. The United Nations approved a plan of action- the 'Sustainable Development Goals' (SDG) in 2030. In India, the National Education Policy 2020 was approved by the Union Cabinet on 29 July 2020. The aim of this NEP 2020 is to achieve the UN Sustainable Development Goal 4. The policy also aims to transform our nation into an equitable, vibrant knowledge society and sustainable nation by providing quality education from elementary to higher education including vocational skills. The objective of the present paper is to analyse how India's New Education Policy 2020 will achieve Sustainable Development Goal 4 (SDG4) on education in Indian context. This paper is a theoretical paper which is based on secondary sources. This paper analyses the recommendations of India's National Education Policy 2020 for achieving SDG4. The reforms of the NEP 2020 will certainly help India to convert into the top economies of the world. It is expected that in the next 10 years, the NEP 2020 would transform the education sector of our country to a sustainable sector. This paper also attempts to do a SWOT analysis of NEP 2020. The strong point of India's NEP 2020 is well designed school curriculum, flexibility in learning, no demarcation between streams, curricular- extra-curricular, vocational and academic course, multiple entries and exit system in higher education, focus on quality of teaching, research and innovation etc. The Education system of a country is a true indicator of its economic strength. For successful implementation of NEP 2020, there should be 100 percent cooperation and collaboration from all stakeholders of education system including the Central, State Government and the Ministry of education.

Keywords: Sustainable Development Goal 4, National Education Policy 2020, SWOT Analysis.

PEDAGOGIC CALIBRATION FOR SUSTAINABLE LIVING: EMPIRICS FROM EVIDENCE-BASED REASONING STRATEGY (EBRS) IN BIOLOGY

Dr Rini E Stephen[1], Prof (Dr) M N Mohamedunni Alias Musthafa[2]
[1]Teacher, Government Senior Basic School Department of General Education, Kasargod, India.
[2]Professor & Dean, Department of Education, Central University of Kerala, Kasargod, India.

ABSTRACT

The focus and perspectives of education all over the world have changed drastically in recent decades which is evidenced from the education policies and practices of the different nations. Among these, the most significant change is the deliberate attempt for integrating sustainability principles into education. Various issues largely due to the manmade actives themselves, like global climate change, ecosystem deteriorations, greenhouse effects, calamities, coral reef bleaching, ozone layer depletion, etc., made man think more deeply about the vitality of sustainable development. As education is the most powerful tool for transforming the destiny of any society, proper integration and implementation of sustainability education is the need of the time.

There is no single pedagogical approach recommended to education for sustainable development, rather it should be designed based on the demographic and cultural contexts of the learner keeping environmental validity. The curriculum should be designed carefully by integrating the sustainability issues faced by the planet in an age-appropriate manner. The mere inclusion of these issues in the syllabus is not sufficient enough but the pedagogical strategies used for conveying the concepts also deserve utmost importance.

The purpose of this submission is to share the success story of such a field study using the Evidence-Based Reasoning Strategy (EBRS) for the secondary school students focused on Biology. This strategy enabled the students to make intelligent decisions based on evidence, through critical and systematic thinking. Secondary school students were the sample for the study. The curricular disposition of each theme or issue is organized corollary to the intellectual routes derived from the conceptualization of the variables under consideration. Hence it followed an eight-phased pathway that ensures the active participation of the learners under the supervision of the teachers. The gain score obtained during the post-experimental stage from experimental and control groups assert that the Students can understand sustainability issues and could able to analyze these issues systematically by weighing empirical evidence related and thinking about the solution scientifically through evidence-based reasoning. The authors acclaim the potential and possibility of the tried-out model for different curricular subjects.

Keywords: Pedagogy, Sustainable Living, Evidence-Based Reasoning Strategy (EBRS) in Biology.

REVAMPING E-LEARNING PLATFORMS: CATERING LIFE LONG LEARNING AMID PANDEMIC

Dr Shelly Aggarwal[1], Dr. Dazy Zarabi[2]
[1, 2] Department of Community Education and Disability Studies, Panjab University, Chandigarh, India.

ABSTRACT

Forward thinking academics and its channelization have become vital necessitate, amid unanticipated pandemic circumstances. To accommodate Lifelong Learning in an efficient way, the call for the hour is to re-visit the existing e-learning channels. The aim of this paper is to study the ingenuity of e-platforms to cater the lifelong learning among the teaching faculty. The research has been prompted by the global indulgence of vast teaching community into online courses, surmounting the constraints of time, distance, funds and disability. The paper contains the outcomes of the online survey conducted among the educators teaching in various universities, colleges and schools in the Chandigarh region. The survey form included the questions with respect to the frequency and nature of online courses that the teachers underwent for their professional as well as personal enhancement, during the lockdown period and also the suggestions for better online interface were acknowledged. To the author's astonishment, the e-learning have provided splendid opportunity to the teachers with disability to gear-up their lifelong learning at international podium, which have paved the way to celebrate inclusion. The study communicates the efficacy of the diverse online platforms like MOOCs, Hybrid Classrooms, e- Pathshala, IIT Pal, Vidwan, e-Shodh Sindhu, CBSE Podcasts, Docebo, Adobe Captive, Articulate, Elucidat, Blackboard learn, shift etc. and highlights the improvisations needed to kindle the process of Lifelong Learning in an efficient way. The paper concludes with the projection of societal concern and holds the implications for the policy makers so that the key areas could be introduced into practice.

Keywords: Lifelong Learning, E-Learning, Online Learning Platforms, Pandemic.

TARGETED EDUCATION FOR SUSTAINABLE DEVELOPMENT

Dr Tapati Mukherjee, Principal, S.K. Rai Degree College of Commerce, Mumbai, India.

ABSTRACT

Swami Vivekanand had rightly said, “Education is not the amount of information that is put into your brain and run riots there, undigested all your life.” It is something more, education for sustainable development allows every human being to acquire the knowledge, skills, attitudes, values necessary to shape a sustainable future. It is simultaneously a sub- field of education for shaping educational policies that will take into account the present environmental, societal and economic challenges.

This paper emphasises on a fool proof education system that will survive any kind of adversity be it a pandemic, a war or a natural calamity. Apart from jobholders, the lives of students waiting to give their Boards, one of the deciding factors for students to go for higher studies were the biggest losers. Due to the present pandemic the Indian education system is feeling the pinch of catching up late in adjusting to the switch from offline to online. Is the pandemic creating a ‘new normal’ in education or simply accenting what has already become a normal- an accelerating tendency towards technologization? This tendency presents an important challenge for education which requires to think about post COVID-19 curriculum. With students scattered in cities and country, online teaching enables students to continue their learning and the educators can complete syllabus in some sort of a methodical way. But the educational institutions in remote areas are unprepared to take this advantage due to improper connectivity.

As education is a passage to progress, this paper will aim to address the following question,

-What form of Education will stand the test of time? Be it war, a calamity, or a pandemic?

The approach for the same will be done by studying in detail, three types of education systems namely Formal (offline teaching) , Informal (online teaching) includes practical adult learning, diversity in methods and content and the New Education Policy (NEP) as proposed by the Government of India with emphasis on Goal 4 that make up 2030 agenda and ensures inclusive equitable quality education to all individuals.

From the above this paper will present its conclusions about the ideal Education System for India that’s flexible and can be adapted in any scenario.

Keywords: Sustainable Development, Present Education System, 2030 Goal 4, National Educational Policy.

DAY 1 – PARALLEL SESSIONS 1C: EDUCATION

IMPACT OF DIGITALIZED LEARNING IN THE FIELD OF EDUCATION AMONG CHILDREN WITH LEARNING DISABILITIES IN PANDEMIC SITUATION: CASE STUDY

K Sindhu Bhavani[1], Appaji K[2]
[1, 2] Doctoral Research Scholar, Department of Education and Education Technology, University of Hyderabad, Telangana, India.

ABSTRACT

The world before and during pandemic has brought a drastic change in the Global education. Although the other way round education is being continued with digitalization as a back end support, there are exceptions in cases where children with learning disabilities are completely overlooked. They have lost their educational track due to lack of physical connectivity with their teachers and supporting people. The purpose of the researcher is to study the impact of digitalized education among children with learning disabilities. Multiple case study design has been adopted. Semi-structured interviews and focused grouped discussions were conducted for the teachers and parents under the experts' guidance. The sample for the study was special schools in Telangana state in India. The findings suggested that making adjustments to the routine such as experiencing closure of schools and confinement to home atmosphere has proved to be a real struggle for children with learning disabilities. Support from siblings, parents and teachers were very less due to lack of digital skills understanding among children with learning disabilities. The study suggests that an alternate way for educating the children with learning disabilities need to be upgraded by flexible curricula, professional advancement among the teachers as well as parents and availability of learning resources should be given special consideration. Support from schools and teachers are very much necessary in building motivation and mental wellbeing among the children with special needs.

Keywords: Digitalized learning, Children with Learning Disabilities, Pandemic Situation, Mental Wellbeing.

THE USE OF DIDACTIC STRATEGIES AND TECHNOLOGIES TO SUPPORT REMOTE AND DISTANCE LEARNING

Marina Vianna de Souza[1], Raphael Carvalho da Silva[2]
[1, 2] Instituto Brasileiro de Ensino, Desenvolvimento e Pesquisa (IDP)

ABSTRACT

The 2020 UNESCO Report states that during the pandemic some universities have postponed learning and teaching until further notice, due to the lack of information technology (IT) infrastructure for both students and teachers. With the expansion of global adversities, such as COVID-19 crisis, global warming and social inequalities, it is necessary to use pedagogical strategies for social transformation. In this sense, researchers, teachers and global citizens had to adapt for this new scenario. Technologies have been already used by teachers and researchers before the pandemic. Although, on a worldwide scale, a considerable number of teachers were immediately tasked to use different kinds of technologies and Information Communication Technology (ICT) skills, it was observed that strategies of blended and distance learning were used without sufficient guidance, training, or resources during the pandemic. This study aims to analyze pedagogical strategies and technology used by teachers in a private higher education institution in a context of global adversity. In the educational field, technology has been used as an important resource for supporting online and presential learning in Brazilian institutions to develop students' skills, engagement and motivation. Considering the social isolation, the fact of this COVID-19 crisis is lasting longer than expected initially and the large number of teachers were not prepared for this new scenario, remote learning has been an opportunity for teachers to apply technologies integrated with their pedagogical strategies at this moment of uncertance. In remote learning and distance education mediated by digital technologies the pedagogical strategies involving engagement, action, resilience and students support is more evident. Freire's (1996) points out that the educational process demands creating motivated actions in order to promote the critical transformation respecting the students' dignity, subjectivity, experiences and autonomy throughout the learning journey. The use of technologies does not make the learning process something qualitative and meaningful, it is necessary the development of didactic proposals by the active involvement of professors. The research questions focused on which pedagogical strategies undergraduate teachers use during global adversities to engage their students.

This research is based on Responsible Research and Innovation (RRI). The RRI requires a consensus on necessities and expectations by society between researchers, citizens, companies, among other interlocutors, throughout the research process aligned with procedures and results with the values (OKADA & SHERBORNE, 2015). Participants included ten teachers of EDAP/IDP who answered a questionnaire related to pedagogical strategies used during global adversities in Higher Education. Initial findings indicate that teachers are using more digital resources and applied technologies integrated with their pedagogical strategies due to the pedagogical support fulfilled by the academic area. A large number of teachers who did not know how integrated pedagogical strategies and technologies are now are improving their ICT skills which can be used to engage students and use for teacher training. Still, it is necessary to understand how these pedagogical strategies and technologies have been used and which pedagogical strategies are new.

Keywords: Global Adversities, Pedagogical Strategies, Information Communication Technology (ICT), Responsible Research and Innovation (RRI).

DEMOCRATIC EDUCATION AND SUSTAINABLE DEVELOPMENT

Miss Vimla Choudhary, Asst Prof Department of Economics, Alankar Mahila P.G. Mahavidyalaya, Jaipur, University of Rajasthan, India.

ABSTRACT

A democratic education system brings changes in the society. It brings democratic values to education and values as justice, respect and trust. Democratic education can apply to learners of all ages in any learning environment in different societies, therefore, a significant focus is placed on this educational system by various educational institutions. In ancient time this system was adopted by Gurukuls, and even in current era this system is followed by many educational institutions specially in India.

United Nations program defined education for sustainable development that encourages change in knowledge, skills, values and attitudes to enable a more sustainable and just society for all and the institute like “Banasthali Vidyapith” is fulfilling these objectives since 1935. In today's scenario the educators have a crucial responsibility in terms of sustainability in education system. It’s essential to raise the next generation into eco-conscious, self-sufficient world-citizens who understand the need of environmental responsibility, therefore sustainability in education provides self-sufficiency to today’s learners which they need for tomorrow. There should be a balance between environment and society as they are interdependent. Identification and adoption of environment friendly campaigns can lead an eco-friendlier societal future. Giving kids a head start with early sustainable education will also help to prepare them for successful careers.

Earth is the only home, the next generation has, so what students learn in educational system shapes them for the future. Starting early with sustainable education teaches kids why the environment is important, how it should be treated, and how they play a crucial role in the future of its existence. The world is changing and by emphasizing on sustainability in education, we can do more than that they need to take on environmental change — we can bring a better future for them.

This article is based on case study of an educational institute, namely Banasthali Vidyapith, Rajasthan, India. A wholesome education system of Five-fold education (social, economic, environmental, cultural and spiritual) along with Gandhian philosophy is followed by the institute to acquire the knowledge, life skills, attitude and values necessary to shape sustainable future. To meet the demands of sustainable output for the future world, Banasthali provides adequate curriculum design along with the all variants of extra co-curricular activities, which brings sustainability to the environment, society and economy.

Keywords: Democratic Education, Gurukul System, Environmental Change, Five-Fold Education (Panchmukhi Shiksha), Gandhian Philosophy.

PRIVATIZATION AS A SOCIO-ECONOMICAL POLICY AND ITS IMPACT ON TEACHER EDUCATION

Mr. Vinay Lautre[1], MS. Anupama Yadav[2]
[1]Asst. Professor, SKN College of Education & Training, Lonavala, Maharshtra, India.
[2]Asst. Professor, Dept. of Education, CSM University, Kanpur U P, India.

ABSTRACT

The paper aims to analyze and convey the various arguments for and against Privatization. Privatization is largely discussed in economics and political science research with its pros and cons. The goal of this paper is to study the privatization of education in the Indian context in the field of teacher education and its impact on the teacher education institutions' practices. It's seen that from the last 15 years the growth of teacher education institutions is 268% and the maximum institutions are run by private players. The government of India accepted new economic policies from 1991 under the influence of global economic changes. It assumes that globalization, privatization, and liberalization will increase employment. Following the open market philosophy, rapid changes occurred in the educational scenario of India. Moreover, recently shaped and accepted new national education policy 2020 is recommending to increase the role of public-private partnership in the field of education. The corporatized structure of institutions is using free-market philosophy in the name of charitable service. On the other hand, the gross enrolment ratio of the country is increased by opening such institutions. Privatization of education has its negative side as well as it influenced the socio-economic life of Indian students.

Teacher education in India is under the supervision of a government statutory body named as National Council for Teacher Education (NCTE). It has four regional offices divided into four regions to smooth the operation of supervision. This body has the authority to grant or withdraw the permission of running teacher education courses. In past years the state of Maharashtra under the western regional committee and Uttar Pradesh under the North regional committee has been granted a large number of colleges/institutions. These institutions are affiliated with the state universities and follow the guidelines prescribed by the University grant commission and NCTE. On the hypothesis that the enrollment of students in the private institutions and government institutions are the same and the quality of education is not differing in any means, the authors will analyze the data available in various reports published by government bodies, universities, and other secondary sources. The study will mainly descriptive. Data will collect from websites, surveys, research papers & articles, journals. The study will discuss the teacher education institutions of the selected regions so it will not apply to other country's teacher education institutions.

Keywords: Teacher Education, Privatisation, Quality Education, Higher Education, Education Policy.

IMPACT OF COVID-19 ON SKILLS AND ATTITUDE OF SCHOOL TEACHERS IN RELATION TO TEACHING LEARNING RESOURCES

Ms Jovita Nathan[1], Ms Komal Gagare[2]
[1&2] Assistant Professors, School of Education & Research, MIT ADT University, Pune, India.

ABSTRACT

Only I can change my life. No one can do it for me.
Carol Burnett

The dawn of Covid-19 has collectively made all to reimagine education and achieve our vision of equal access to quality learning around the globe. The pandemic directly affected the education of nearly 1.6 billion learners which is 90% of the world's total student population. This crisis has challenged the teacher's creativity, innovation, acceptance and leadership. Globally, in a context where teachers and learners didn't have computers, internet access. Online learning was a new leap- a novel way of teaching, creating an interactive learning environment and simultaneously ensuring that learning never stops.

Being technologically sound, working systemically and using the appropriate teaching learning resources was a big challenge for the teachers as all the teachers did not have the skill and attitude to accept this new change. The purpose of this paper seeks to address the problems related to the attitude of the school teachers towards the paradigm shift of offline learning towards online learning. The questions that arose in the minds of the researchers were- Are the teachers ready to accept the new change? Do they have the skills which will help them to inculcate new teaching-learning resources for the students? Can a workshop or small sessions on teaching-learning resources conducted will help the teachers during this pandemic. In an attempt to answer the above questions, the researchers conducted a survey on 50 school teachers to find out their attitudes towards online learning and their awareness towards the different skills required for online teaching.

It was found that 72 % of the respondents did not have a positive attitude towards online teaching.85% of the respondents were not aware of the skills required for online learning.80 % teachers were ready to know the new teaching methods. Considering the above need the researchers thought of taking some measure which will be useful for the teachers. The researchers created an Edu-Tech module on teaching-learning resources which will establish a linkage between the teacher and the student in the classroom teaching. The teachers can utilize the technology and resources which are available to engage students, keep an eye on their progress from far and ensure quality education.

Keywords*:* Skills, Attitude, Teaching- Learning Resources, Edu-Tech*.*

SUSTAINABLE EDUCATION IN READING: AN EFFECTIVE LEARNING THROUGH TWO-FOLD TEXT

Ms R Subhashini, Ph.D. Research Scholar (Full-Time) in ELT, PG & Research Department of English, Presidency College (Autonomous), University of Madras, Chennai, India.

ABSTRACT

In the current scenario, there is a tremendous transformation in learning a language. Education of sustainable development (ESD) is a comprehensive and transformative educational process in which participatory learning and creative, critical, and systemic thinking are strengthened by creating links between individuals and the community. William Butler said once "Education is not the filling of a pail but the lighting of a fire". This paper mainly focuses on the goal of ESD and how reading can be magnified through Two-fold text to make students lifelong learners.

The researcher had introduced & termed for the first time in India a new reading technique called "Two-fold Text" that enables students to interact with the text effectively. This technique mainly emphasizes for students to prepare for their CORE Examinations. Learning is defined as assimilating and processing new knowledge and skills, moving them via short-term memory to long-term memory, and then re-using them in another context. The researcher had investigated research with 20 samples with pre & post-test to test language elements in reading for 9th & 10th-grade learners in Chennai, Tamil Nadu.

The researcher had applied methodology as content-based instructional method (CBIM) for this research. This article gives a brief account of CBIM and its advantages & reading techniques. CBIM simply brings immersion learning into the language classroom. In this research article assets of two-fold text have been discussed briefly. The supremacy of sustainability provides rich and engaging contexts for developing students' abilities in reading comprehension.

Reading comprehension assists students to develop the skills necessary to understand, organize, generate, analyze, evaluate, synthesize, internalize, interact and communicate ideas and information related to actions for sustainable futures. The learners can develop their understanding and skills necessary to act responsibly and create texts that inform and persuade others to take action for sustainable futures. In this learning area, students may interrogate a range of texts to shape their decision-making, problem-solving, critical thinking, & social skills with sustainability.

The content-based instruction, language, and literacy strands are key to improve and share the knowledge about social, cultural, economic, and worldviews that promote social justice. Through outcomes of the results investigated by the researcher that Two-fold text has proved a positive outcome for students in their reading.

Keywords: Sustainable Education, Content language and Integrated Learning, Reading & Two- Fold Text.

IMPACT OF COVID CRISES ON SCHOOL EDUCATION IN INDIA

Parminder, Research Scholar, Department of Education and Community Services, Punjabi University, Patiala, India.

ABSTRACT

The present study is conducted to see the impact and challenges to Indian school education system during covid crises. A documentary analysis of various sources like research papers, newspaper articles, government documents and other research evidences is used in the present study. A paradigm shift has been witnessed in the education sector in India during covid pandemic as schools and teachers are forced to adapt to e-learning, leaving the traditional way of teaching. In India, school closures have affected 320 million students and only 37.6 million children across 16 states are continuing education through online classrooms. The covid pandemic has brought a huge digital divide by pushing a large number of children out of school and increase a gender disparity in education. A learning gap has been created among marginalized sections of society which includes disables, ethnic minorities, children on the move (migrant, refugee and internally displaced children), and the ones that are in the most rural hard-to-reach and poorest communities. The pandemic has disrupted school meal services thus affected the nutrition of 115.9 million children between 6-17 years of age who are enrolled under the mid-day meal scheme. The lockdown during COVID-19 pandemic have had huge consequences on the health, nutrition and learning of 30 million children (3-6 years) who were beneficiaries of the Integrated Child Development Services (ICDS) scheme. The government of India has undertaken various initiatives such as: educational channels through Direct to Home TV, Radios for students, social media tools like WhatsApp, Zoom, Google meet, Telegram, YouTube live, Facebook live and digital initiatives (Diksha and e-Pathshala) to continue school education in covid crises. The efforts of government, corporate giants, and other social agencies need to be synergized as it is difficult for one single entity to bring about the change, as the scale is enormous.

Keywords*:* COVID-Pandemic, School Education, Online Learning, Digital Initiatives.

OPINION OF THE STAKEHOLDER ABOUT THE NO DETENTION POLICY IN SECONDARY STUDENTS

Rampravesh R Yadav[1], Dr Keshar R Jadhav[2]
[1]Ph.D student, [2]Research Guide, C.S.S.M. Chembur Mumbai, India

ABSTRACT

Education is the Basic Need of the Human Being. It helps in the development of humans and country. Government of India has started many educational policies for the achievements of this goal that is minimum basic education for all. In 2002, through the 86th Amendment Act, Article 21(A) was incorporated. It made the right to primary education part of the right to freedom, stating that the State would provide free and compulsory education to children from six to fourteen years of age. Six years after an amendment was made in the Indian Constitution, the union cabinet cleared the Right to Education Bill in 2008. The Right of Children to Free and Compulsory Education Act or Right to Education Act (RTE), which was passed by the Indian parliament on 4 August 2009, describes the modalities of the provision of free and compulsory education for children between 6 and 14 in India under Article 21A of the Indian Constitution. India became one of 135 countries to make education a fundamental right of every child when the act came into force on 1 April 2010. The bill was approved by the cabinet on 2 July 2009. Rajya Sabha passed the bill on 20 July 2009 and the Lok Sabha on 4 August 2009. It received Presidential assent and was notified as law on 3 Sept 2009 as The Children's Right to Free and Compulsory Education Act. In the year 2009 Government of India started the no detention policy (Right to Education Act, no student can be failed or expelled from school till the completion of elementary education covering classes 1 to 8. The essence of the policy is that children should not be 'failed' and detained up to Class 8.). The effect of no detention policy on students, parents, teachers and on the principal has been studied (investigated) in this research. The competitive study of the impact of different policy was seen in the many research but the opinion of the students, parents, teachers and the principal of the difference school of English, Marathi and Hindi medium school are compared in the present research. Over all 300 students, 100 parents ,40 teachers and 20 principal opinion was taken. The opinion of the teachers and principals about No detention policy is presented here by the researcher.

DAY 1 – PARALLEL SESSIONS 1D: EDUCATION

THE ROLE OF EDUCATION IN COVID-19 SAFETY AWARENESS AMONG BUILDING CONSTRUCTION OPERATIVES IN ADAMAWA – NIGERIA

Mr Samuel Abiodun Alara, Quality Surveyor, Federal Polytechnic Mubi, Nigeria.

ABSTRACT

Coronavirus (COVID-19) has devastating effect on human health and the global economy. Poor COVID-19 safety awareness culture is linked to the rising number of COVID-19 cases. COVID-19 safety awareness is vital for sustained recovery for the Nigerian construction industry. The study investigated the role of education in COVID-19 safety awareness among building construction operatives in Adamawa – Nigeria. A quantitative research approach was employed through descriptive research design. Questionnaires containing information relating to respondent level of education and COVID-19 knowledge were randomly administered to 450 building construction operatives from nine selected construction sites across the state, 306 valid responses were used for analysis; corresponding to an 68% response rate. The data collated were analyzed using descriptive and inferential statistics through SPSS v26. The result revealed that operatives' level of education plays a significant role in the state of COVID-19 safety awareness culture among building construction operatives in Adamawa - Nigeria. Construction employees with formal education exhibited higher level of COVID-19 safety awareness compared to their counterpart with no educational qualification. The study therefore recommended that construction firms should prioritize educational qualification for all level of employee. More educated operatives should assist less educated operatives with COVID-19 safety education. Authorities should enforce COVID-19 safety education through massive COVID-19 awareness promotion campaign among construction companies to halt the rising number of COVID-19 cases.

Keywords: Education, Construction Operatives, COVID-19 Safety Awareness, Construction Sites, Adamawa Nigeria.

SUSTAINABLE DEVELOPMENT THROUGH ENVIRONMENTALLY RESPONSIBLE BEHAVIOUR: ROLE OF EDUCATION

Styne Joseph[1], Dr Sajna Jaleel[2]
[1]Research scholar, School of Pedagogical Sciences, Mahatma Gandhi University, Kottayam, Kerala, India and Assistant Professor, GCTE Kozhikode, Kerala, India.
[2]Associate Professor, School of Pedagogical Sciences, Mahatma Gandhi University, Kottayam, Kerala, India.

ABSTRACT

Sustainable development was first officially discussed in the Brundtland Report published by the World Commission on Environment and Development in 1987, and the corresponding rapporteur defined it as "sustainable development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (WCED, 1987). The life of human being depends entirely on the environment and any adverse change in the environment makes the life of the human being difficult on the planet. The desires and expectations of humanity increase exponentially which crosses all limits consumption of environmental resources that are essential for the existence of future generations. The greedy nature of certain people makes this planet not suitable for human life. Development is essential for humanity but the projects for those developments do not affect the existence of human being. In this context the term sustainable development got importance. Sustainable development has three dimensions, namely economy, environment, and society (Olsson, Gericke, & Chang Rundgren, 2016). For sustainable development to take place, the sustainability of these three dimensions must be ensured simultaneously (Alkış, 2007). On the road to sustainable development, the role of individuals and their awareness is important. Even though the attainment of sustainable development is a global one but the understanding of individuals especially students, teachers, and teacher educators are important in attaining sustainable development goals.

By 2030 United Nations aims to build a more prosperous, more equal, and more secure world. For this 193 Member States at the UN General Assembly Summit in September 2015 formulated seventeen sustainable development goals and 169 targets. Awareness and understanding are important in achieving the goals by 2030 with the motto leaving no one behind. This study aims to find out the attitude towards the sustainable development and environmentally responsible behaviour of individuals especially students, teachers, and teacher educators and also to find out the relation between them. This study also intended to make awareness to individuals about the importance of sustainable development goals and developing and promoting different strategies based on the above findings. Mixed method research is used to find out attitude, behaviour, and the extent to which the individuals show environmentally responsible behaviour. The different tools used for the study are Sustainable development attitude scale and environmentally responsible behaviour inventory. Environmentally responsible behaviour is important in attaining sustainable development goals. Through education these behaviour can be imparted to the individuals and thereby SDG can be fulfilled.

PRAGMATIC SOLUTIONS FOR POST COVID TEACHER EDUCATION - LESSONS FROM THE USE OF SUSTAINABLE TOOLS AND STRATEGIES

Dr Chandrasekharan Praveen
Former Principal, Institute of Advanced Study in Education, Thrissur, Kerala, India

ABSTRACT

The National Curriculum Framework for Teacher Education (2010, India) proposed to prepare humanistic and reflective teachers with the potential to develop more professional teachers and improve the quality of education. A decade later, when the Covid pandemic struck, teaching was shifted to online mode and social distancing resulted in an abrupt end of face to face instruction. Untrained teacher educators were directed to engage classes online for student teachers who had no prior experience of learning online. The existing digital divide in India and issues related to accessibility and affordability affected seamless delivery of instruction resulting not only in lowering of quality of instruction but also affecting negatively, student mental health. Then, finding ways to address student needs, suddenly became imperative. As early as 1943, Abraham Maslow proposed that individuals must satisfy lower level deficit needs before progressing to higher level growth needs. With the Covid pandemic raging in 2020, many parents of students lost their jobs and the resulting financial crunch affected the family budget set aside for education. This meant that investing in laptops and acquiring a broadband connection with high internet speed not only became a luxury but an elusive dream resulting in widening the gap between the have and the have not's.

The investigator cum teacher educator, a former faculty of a government run teacher training college, where meritorious students mostly from low socio-economic backgrounds study, explored affordable tools and quality content for delivering online instruction. In order to raise the quality of instruction, the investigator for half a decade, attempted a resource mining of Massive Open Online Courses (MOOCs). Then by utilizing an affordable and sustainable tool like WhatsApp, the investigator transacted the teacher education syllabus in a blended mode by integrating it with the high quality content acquired for own CPD from MOOC's offered by leading universities. Such a strategy opened up the possibility of student teachers to continue education even in times of crisis and acquire to an optimum level the instructional goals of the teacher education programme.

This paper presents the strategy employed which basically attempted to match Maslow's hierarchy of needs with the needs of student teachers to ensure quality instruction. Now it is becoming increasingly clear, that the Covid pandemic and online instruction is likely to continue in the coming years. In such a scenario, the author hopes that the sustainable strategies and tools employed in own academic setting can provide pragmatic solutions for teachers struggling to cope with online Post Covid teacher education.

Keywords: COVID, MOOC, Needs, Sustainable, Teacher Education, WhatsApp.

TARGETED EDUCATION FOR SUSTAINABLE DEVELOPMENT

Shanavas K E[1], Dr Sajna Jaleel[2]

[1]PhD Student, Safety Engg, PGDCA, Research Scholar, School of Pedagogical Science M G University, (Centre of Research), Kottayam, Kerala, India.

[2]Associate Professor, School of Pedagogical Science M G University, (Centre of Research), Kottayam, Kerala, India.

ABSTRACT

Targeted Education for Sustainable Development, it is often referred to as TESD allows every human being to acquire knowledge, skills, attitudes and values necessary to shape a Sustainable Future. TESD Goal4 is about quality education and is among the 17 Sustainable Development Goals established by the United Nations in September 2015.

Mission (4 Quality Education, Wikipedia) is "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all".

Objectives of the Study

To equip Higher Secondary school students to build a more sustainable world in chemistry text books in Kerala state syllabus.

Methodology of the study

The Methodology used for the study is Qualitative approach/Systematic review / whole institutional approach is used for the study. It helps the policy makers and acute researchers to assess multiple development and impact across the environmental, social, economical and educational dimensions. The study is theoretical and qualitative and uses the content analysis is to explore the opportunities offered by the chemistry text books to promote TESD in the school class room. The whole institutional approach involves how the school planning, management, well-being, teaching- learning process, Content transaction, care for oneself, others, environment, behavior of students. Observation is the tool used for the study.

Targets of Education Bourn,2018

The main three "means of achieving targets" are:

Build and upgrade inclusive and safe schools;

Expand higher education scholarships for developing countries;

Increase the supply of qualified teachers in developing countries

Targets and Indicators of Education for Sustainable development UNESCO, 2012; UNDESA 2013

SDG 4 has 10 targets which are measured by 11 indicators.

Target 1. Free primary and secondary education

Target 2. Equal access to quality pre-primary education

Target 3. Equal access to affordable technical, vocational and higher education

Target 4. Increase the number of people with relevant skills for financial success

Target 5. Eliminate all discrimination in education

Target 6. Universal literacy and numeracy

Target 7. Education for sustainable development and global citizenship

Target 8. Build and upgrade inclusive and safe schools

Target 9. Expand higher education scholarships for developing countries

Target 10. Increase the supply of qualified teachers in developing countries

Analysis for the study

The study is conducted to find out the sustainability of chemistry text books to promote Targeted Education for Sustainable Development in the school class room. Simple and categories analysis (content wise, chapter wise, unit wise analysis) of higher secondary chemistry text book in Kerala state syllabus is used for the study. Frequency distribution, Bar graph, Pi diagrams etc. is used as the statistical techniques for the study.

Challenges of the study Filho, 2020

Impact of COVID-19 pandemic

Just as all SDGs, achieving SDG 4— for inclusive and equitable access to education—is likely to be missed due to the COVID-19 pandemic, there is a projection that more than 200 million children will still be out of education by 2030.

Conclusion/Outcome of the study

Empower the students to take the responsibility for the present and the future generations and actively contribute to societal, economical, environmental and educational transformations and to build a more Sustainable World. Employ interactive, project based, e learning resources and learner centered pedagogy in higher secondary texts and syllabus in Kerala state. Transform all aspects of learning environment through a whole institution approach to Education for Sustainable development to enable learners to live what they learn and learn what they live.

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THE ROLE OF LIFELONG LEARNING IN PERSONAL AND PROFESSIONAL GROWTH WITH SPECIAL REFERENCE TO SPIRITUALITY

Dr Veda C.V, Assistant Professor, Department of Social Work, Bangalore University, Bengaluru, Karnataka, India.

ABSTRACT

Lifelong learning can enhance our understanding of life and the people around us, it provides us with more and better opportunities and improves our quality of life. There are two main reasons for learning throughout life for personal growth as well as for professional growth these reasons may not necessarily be distinct as personal development can improve over employment opportunities and professional development can enable personal growth. The objective of the paper is to understand the key factors which enhance our personal and professional growth. The paper is based on historic research design and data collection has done through secondary data. The paper majorly highlights the key factors which are responsible to enhance personal and professional growth such as spirituality factors includes self-awareness, self-love, Intra-personal development, being optimistic, Forgiveness, Hope, the need for meaning and purpose in our lives, the need to love and feel loved, the need to feel a sense of belongingness, the need to feel hope, peace and gratitude. The results show that spiritual factors help an individual to grow personally as well as professionally.

Keywords: Lifelong Learning, Spirituality, Personal Growth, Professional Growth.

QUALITY MANAGEMENT IN HIGHER EDUCATION

Dr Mini K S, HoD, M.Ed Department, Fathima Memorial Training College, Pallimukku, Kollam
Kerala, India.

ABSTRACT

Management Education is one discipline of Higher education by which students are taught to be business leaders, managers and administrators. One of the key elements in determining the socio-economic significance of education is quality. For few, quality is in connection to the importance of predominance and perfection, and to others quality is a confirmation. All centre on clients and their fulfilment. Quality is a great and exciting challenge to Higher Education (HE). Quality in education is a very vital issue because HEIs are accountable to several stakeholders such as students, society and other. Quality management plays an integral role in higher education by ensuring that quality benchmarks are being met, thereby attributing to its prestige, increased enrolment, and student success. With quality management still in the growing stage, research is needed regarding the applications, challenges, and benefits of these policies within advanced academics. It is about creating a quality culture where the aim of every member of staff. In addition, quality of HE is a standout amongst the most of parts of the making of learning, human asset improvement and social power for any country.

Promotion of quality and the management of quality is not about long service but an exhibition of effective leadership that institutions to navigate through the turbulence of challenges facing higher education today. The two main dimensions of quality management are product and service. There are various disciplinary perspectives from which professionals view quality management from. In the contemporary world all managers must pay particular attention to follow a standard operating procedure (SOP).

This paper focusses on approaches to quality management in higher education, with particularly focus on India as well as quality tools used in higher education like SIX SIGMA, LEAN and TQM. Globally, quality has emerged as one of the determinants of a university's world ranking and competitiveness. The concept of "quality in higher education" is thus of immense concern for academics and academia globally.

To conclude from the review, the new wave in the higher education space has necessitated new forms of accountability in the sector. It is argued that when determining quality assurance in teacher education there is need to take into account not only what teachers are taught but also how they are taught. It provides an insight on how innovative teaching and learning methods.

Keywords: Quality Management, Approaches, Leadership, Quality Assurance.

EDUCATION FOR SUSTAINABLE DEVELOPMENT FOR OUR PLANET

Ms Indu Bala[1], Mr Anand Sahu[2]
[1]Ph.D. Research Scholar, School of Education, Mahatma Gandhi Central University, Bihar, India
[2]Research Scholar, School of Education, Mahatma Gandhi Central University, Bihar, India.

ABSTRACT

Education is the best mean and instrument to make aware about sustainability. It is an essential tool to achieve sustainability. Sustainability is only the way for maintaining healthy environment and reduces negative impact on environment. Sustainable development means "use of resources to meet present needs without compromising the ability of future generations to meet their needs" (United Nation General Assembly, 1987). So only education has potential to represent the importance of sustainability and it can play a crucial role to develop a vision of sustainable development and help to achieve our sustainable development goals (SDGs).

Education for Sustainable development (ESD) introduced by UNECSO which is defined as to empower all learners and provide opportunities to acquire knowledge, skills, values and attitudes to take decision and responsible actions. This will help in environmental integrity, welfare of society and economically supportive. Education for Sustainable development is not just for a limited time but it is a life-long process, which should be the part of quality education. ESD is an integral element of Sustainable Development Goal 4 (SDG 4- quality education) and important key to achieve all Sustainable Development Goals and help in transforming the society (UNESCO). Education for Sustainable development is important for environmental learning and it should be integrated across the curriculum, with a holistic pedagogy. This will provide the students, support to learn and act for the planet sustainability. Therefore, this paper intends to explore the relationship between education and sustainable development, to describe suitable education for sustainable development and to discuss on review of how environmental issues are projected in education. The paper also focuses on important elements of Education for Sustainable Development such as Learning content, Pedagogy and Learning Environment, Societal Transformation, Learning outcomes, etc.

Keywords: Education for Sustainable Development (ESD); Sustainable Development Goals; Environment; Pedagogy; Learning Content; Learning outcome.

SUSTAINABLE DEVELOPMENT AND EDUCATION IN INDIA

Dr SankaraRao Kocherla, Assistant Professor in Education, M.R. College of Education, Fort, Vizianagaram, Andhra Pradesh, India.

ABSTRACT

As defined by the Brundtland Commission, "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs". The Brundtland Commission, formerly also known as the World Commission on Environment and Development was formed in 1983. The rationale was to have an organization independent of the UN to formulate “a global agenda for change" that would bring together industrialized and developing nations on a common platform to chart out a course of development that would take into consideration the interrelatedness of people, resources, development and planet. The Commission was represented by members of 21 nations and its first chair was Gro Harlem Brundtland, a former Prime Minister of Norway. The Commission held public hearings in the capitals of 15 countries and subsequently published a report titled “Our Common Future” in 1987 that explored the ways in which political commitment and public participation can trigger a new era of economic growth that would manage environmental resources efficiently to ensure both sustainable human progress and human survival. After the publication of its report, the Brundtland Commission called for an international conference to be convened to review the progress being made by nations with regard to Sustainable Development in their respective countries. This resulted in the United Nations Conference on Environment and Development, popularly known as the ‘Earth Summit’ which was held in Rio de Janeiro, Brazil in 1992.At Rio, a global plan of action, titled ‘Agenda 21’ was developed focusing on climate change, loss of biodiversity, management of the earth’s forests and the responsibilities and rights of nations. In fact, it was Chapter 36 on Education, Awareness and Training of Agenda 21 that laid the foundation of Education for Sustainable Development (ESD). It stated, “Education, including formal education, public awareness and training should be recognized as a process by which human beings and societies can reach their fullest potential. Education is critical for achieving environmental and ethical awareness, values and attitudes, skills and behavior consistent with sustainable development and for effective public participation in decision-making. Both formal and non-formal educations are indispensable to changing people's attitudes so that they have the capacity to assess and address their sustainable development concerns.” Agenda 21 urged countries to develop and implement a strategy on education for sustainable development. However, only a few countries drafted policy frameworks for advancing this process at the national level as ESD was more or less relegated to the periphery of policy making in most countries. In 2002, the World Summit on Sustainable Development was held in Johannesburg which recommended that the United Nations General Assembly consider adopting a Decade of ESD. As a result, the 57th Session of the UN General Assembly in December 2002, adopted Resolution 57/254 declaring 2005 to 2014 as the ‘Decade of Education for Sustainable Development (UNDESD) and designated UNESCO as the lead agency to promote it. RESET is recognized as “Decade Project” by the UN Decade of Education for Sustainable Development for the decade 2012/ 2013 again. Aim of the paper is to discuss about how education helps to promote sustainable development in India.

DAY 1 – PARALLEL SESSIONS 1E: SECONDARY EDUCATION

OPEN SCHOOLING FOR SUSTAINABLE DEVELOPMENT TO ENHANCE INNOVATION ECOSYSTEMS

Alexandra Okada[1], Chagit Tishler[2], Cyril Dworsky[3], Maria Vicente[4], Pavlos Koulouris[5], Peter Gray[6]
[1]The Open University UK, [2]Bloomfield Science Museum, Jerusalem, [3]Vienna University Children's Office, AT, [4]Leiden University, The Netherlands, [5]Research and Development Department, Ellinogermaniki Agogi, Greece, [6]Norwegian University of Science and Technology.

ABSTRACT

Education for sustainable development is a key issue across the globe with a vital role of implementing effective approaches to foster more science-knowledgeable people at all levels of society (EC, 2018).

This work focuses on open schooling as a strategy for innovation ecosystems (Granstrand, O., & Holgersson, 2020) in Education. Our objective is to present and discuss five open schooling projects funded by the European Commission which are currently being implemented at scale in various countries in and beyond Europe. Both terms 'open schooling' (Hazelkorn, et al. 2015) and 'innovation ecosystems'(EC, 2021) have been promoted by European Commission to empower this generation supported by RRI Responsible Research and Innovation for aligning scientific developments with societal needs through the cooperation between students, scientists and society for digital green transformation.

This descriptive study led by the coordinators of five European projects supported by an expert international project advisor describes innovation ecosystem with open schooling as the evolving set of activities-scenarios, influential/novel artefacts (methods and tools) and multi-actors' partnerships underpinned by literature review - relevant principles and successful practices.

This collaborative work introduces activities, artefacts and actors to explore what, how and why open schooling in education. Our dialogue concludes with examples and recommendations.

Projects	Activities scenarios	Artefacts- Methods and Tools	Multi-actors Partnerships
2019-2022 OPEN SCIENCE HUB **HUBS**	Science shops including local community issues	Missions are transformed into relevant research and innovation projects led by students and teachers using, Citizen Science, and Community-based Participatory Research	School-led community, development through research and innovation, in collaboration with local stakeholders
PHERECLOS **CLUSTERS**	Sustainable development	Collaborative educational environments with schools and academics to enhance from co-creation to problem-based learning	Educational ecosystem brings together schools and further relevant actors to develop 6 pilots regions

2020-2023 SALL SCHOOLS AS LIVING LABS **LIVING LABS**	Food system	School-based collaborative spaces for research and demonstration projects to co-construct the living labs open schooling methodology.	Dialogue between school communities, research institutions, science museums and centres to develop spaces of open learning
2020-2023 make it open **HUBS**	STEAM education and Community problems	Maker culture education, citizen science, constructionism including Online Open Schooling Navigator and resources supported by science, creativity, entrepreneurship and innovation	Schools collaborate with enterprises and civil society organisations to help children solve challenges in and with the community using maker education.
2020-2023 CONNECT Students & scientists solving real-problems **NETWORKS**	Future-oriented science, real socio-scientific issues and societal challenges	Partnership system with coaching Partners-projects database Care-Know-Do framework for science-action within science curriculum Customizable project resources with fun participatory approaches Partnership policies for schools, universities and enterprises.	Science-actions led by students supported by scientists and families integrated to the curriculum with fun participatory approaches

Keywords: OS Together, Open Schooling, Innovation Ecosystems, Education for Sustainable Development.

INNOVATIVE ECOSYSTEMS WITH OPEN SCHOOLING TO SUPPORT LESS WELL-REPRESENTED ACTORS AND TERRITORIES

Dr Alexandra Okada[1], Prof Miriam Struchner[2], Dr Cintia Rabello[3], Karine Pinheiro[4], Rossana Moura[5], Luziana Quadros[6], Thais Castro[7]

[1]The Open University, UK, [2]Titular Professor, Universidade Federal do Rio de Janeiro, [3]Universidade Federal Fluminense, Brazil, [4]SECAD, [5]NGO, [6]Universidade Federal de Santa Catarina, Brazil, [7]Associate Professor, Federal University of Amazonas, Brazil.

ABSTRACT

One of the main challenges for education around the world is to support the large number of less well-represented actors and territories towards a more scientific-literate society for sustainable development locally and globally. This challenge became even more difficult for countries extremely affected by adversities aggravated by the pandemic.

COVID-19 has reached 14.74 million people in Brazil. Of the 16.2 million living below the poverty line – with less than $45/month, 4.8 million survive on no income at all. Over 34% of youth leave school before completing secondary education and only 18% of adults in Brazil have attained tertiary education. Brazil is the country with the highest number of intentional homicides in the world. In 2020, its Amazon rainforest and Pantanal, the world's largest tropical wetlands, suffered the worst fires in a decade (HRW,2020).

'Innovation Ecosystem' is a key strategy promoted by the European Commission (2021 – 2024) to support green, digital, and social innovations by connecting existing strengths at local, regional and national levels for sustainable growth aligned with societal needs (EC, 2021). To prepare youth for responsible research and innovation, open schooling is a key approach to foster scientific literacy through the cooperation between students, teachers, professionals and local communities (EC, 2018).

This inter-region study focuses on how to design innovation ecosystems supported by open schooling and examines drivers and challenges to expand open schooling initiatives as innovation ecosystems for preparing disadvantaged students to support sustainable growth – green, digital and social in their local communities. Participants were five communities of the CONNECT project – inclusive open schooling with engaging and future oriented science, whose aim is to guide youth including disadvantaged students to solve real-problems with scientists. Through in-depth interviews, five practices were mapped to examine common drivers and challenges.

Preliminary findings were discussed at local and inter-regional level. Three drivers were identified:

- Providing opportunities at an early stage for students to identify scenarios, problems, or issues that they are interested in; that they care about
- Creating flexible systems (virtual or physical) with and for students to know how to solve issues supported by (re)search skills with fun.
- Supporting students with activities and contacts for them to do their work based on knowledge acquired, make evidence-based decisions, and take action to develop competences.

The challenges were:

- Increasing students' access to "fruitful" learning opportunities with and without technologies.
- Supporting students' retention with active roles and intrinsic motivation.
- Propitiating learners' attainment with self-regulated strategies and progress with competences for sustainability.

Projects	Aims	Participants
WebRadio UFRJ/RJ	Examine students' authorship about socio-scientific issues and school community's engagement	State schools' students, teachers, Researchers, Scientists and Social Activists
LabLanguages UFF/Niteroi	Support teachers' CPD to integrate multiliteracies, Technologies and socio-scientific issues	Suburb-schools' teachers, academics and multidisciplinary researchers
DigitalSkills BRGovernment/Ceara	Guide teachers to integrate pedagogies, technologies and competences	Semi-arid schools' teachers, students, academics, citizens & policymakers
DigitalAngels NGO/Brasilia	Empower girls through ICT to increase awareness about gender inequalities	Youth from rural schools, indigenous villages, quilombo communities, and agrarian reform settlements
STEMnetwork UFAM/UFMA/UFSC	Strengthen STEM teaching skills to improve students' learning	State schools in Amazon and Santa Catarina

Keywords: OStogether, CONNECT, Open Schooling, Innovation Ecosystems, Brazil, Disadvantaged Students.

ALIGNING SCIENCE EDUCATION WITH SOCIETAL NEEDS AND VALUES: INTRIGUING STUDENTS' INTEREST IN STEM THROUGH PARTICIPATORY METHODS

Sigrid Vedel Neuhaus, The Danish Board of Technology, Denmark.

ABSTRACT

The EU funded project CONNECT takes a point of departure in Open-schooling and sets out to encourage students with low science-capital to pursue a career in STEM by improving their scientific self-esteem, through good experiences of 'science is for me' and by putting science in the context of society.

CONNECT is working with two types of Sciences Education processes – structured and open-ended scenarios. Contrary to the structured scenarios the open-ended scenarios do not have a set topic. It is rather a process which the students go through, starting with deciding on a local challenge to work with.

This process of the open-ended scenarios builds upon the tradition of Deliberative Democracy and Technology Assessment. It is based upon the idea of democratic, well-informed, and inclusive decision-making processes. As well as on the idea of having societal needs and values set the agenda for research and innovation, putting scientific knowledge into the context of society as well as using this knowledge for decision making processes.

The open-ended scenarios are an innovative experiment led by The Danish Board of Technology supported by the user advisory board of CONNECT, which aims to stimulate students' interest in science by approaching it from a different perspective. A perspective where societal needs and challenges the students experience in their own community are at the core of Science Education.

Developing processes targeting local challenges

By combining elements of open-schooling, Deliberative Democracy and Technology Assessment a novel model has been developed taking the students through six steps – two for each of the CONNECT science action stages: CARE, KNOW, DO.

CONNECT Science Action Stage	Steps
CARE	Framing
	Questions
KNOW	Knowledge & Opinions
	Deliberation
DO	Recommendations
	Dissemination

The students will always go through these six steps in this particular order, but each step has different options for method and participants. The teacher will facilitate and guide the students through these steps, but the knowledge acquired will come from experts and local stakeholders. Families are moreover included in different steps of the model. With a point of departure in this model and different participatory methods the different open-ended scenarios are developed.

A pilot has been developed with inspiration from The Citizen Jury method. It has tested in Greece, Spain, and Brazil, dealing with a great variety of topics.

The open process of the model and the pilot has been well received. Although the open process is difficult to carry out in practice, it has shown to be quite flexible and adaptable to schools' needs.

A second open-ended scenario structured around the Consensus Conference method is now in development.

Keywords: CONNECT Project, Open Schooling, Sustainable Development, Open-Ended Scenarios, Deliberative Democracy and Technology Assessment.

HOW CAN TEACHERS, STUDENTS AND FAMILIES COLLABORATE WITH SCIENTISTS ACT AS CO-RESEARCHERS TO IMPROVE COVID-19 PREVENTION? AN OPEN-SCHOOLING APPROACH TO ENGAGE THE EDUCATION COMMUNITY IN CURRENT RESEARCH

Jessica Fernández[1] Rosina Malagrida[2] Alexandra Okada[3]
[1, 2] Living Lab for Health, IrsiCaixa AIDS Research Insitute, IGTP, Badalona, Spain.
[3]The Open University, Faculty of Wellbeing, Education & Language Studies, London, UK.

ABSTRACT

Engaging young and old citizens to appreciate the importance of science and helping them become more informed through science education are some of key societal priorities in Europe.

To tackle this challenge, Open Schooling is a novel approach promoted by the European Commission (EC) to support cooperation between schools, scientists, families and other stakeholders to solve local problems. With the aim to support open schooling in formal science education, the EC has funded the CONNECT project to implement action research to tackle local societal challenges.

A CONNECT pilot project was carried out in Catalonia to address the prevention of Covid-19 in the school environment. An innovative approach to enhance the engagement of participants was to invite the education community to participate as co-researchers in the research project “Escoles Sentinella” led by the Catalonia Local Government. It aimed to monitor and evaluate SARS-CoV-2 infection in the school environment to elaborate recommendations for improving the prevention and control policies.

The Living Lab for Health at IrsiCaixa, supported by CONNECT and other partners from “Escoles Sentinella”, facilitated a transdisciplinary and participatory research approach with a systemic perspective.

A total of 6 schools from primary and secondary education explored their problems and opportunities in different areas of the system followed by an ideation of recommendations. It was conducted in 6 virtual workshops with 44 teachers, then, 24 teachers implemented the same workshops with their students, and so did they with their families. A total of 750 students and their families contributed to this participatory research.

The results were analyzed by researchers from the Living Lab who clustered them by similarities and the resulting list of recommendations was validated by the students. Recommendations were obtained for the different areas of the system and were integrated with those concluded by the other research partners.

The engagement of teachers, students and families in a participatory research contributes with complementary recommendations for policies to those obtained by the other researchers contributing to a better fit with the needs of the schools. Moreover, the systemic approach is useful to help the participants to come up with a broad range of recommendations that cover the different areas of the system, beyond those of the health system. Finally, the partnership with policymakers with a national socio-scientific issue were vital for facilitating teachers, students and families’ engagement with scientists, everyone acting as co-researchers to improve Covid-19 prevention.

Furthermore, we believe that this approach contributes to increase motivation, meaningful learning and scientific literacy among students and their families. This will be further investigated in upcoming phases of the CONNECT project.

We conclude that research in education should offer possibilities for participation to assure that the results better fit their needs, and that, if the challenge is complex, the research should have a systemic approach.

Keywords: CONNECT Project, Open Schooling, Sustainable Development, Systemic Approach, Engagement, Partnerships with Policy Makers, Open Science, Citizen Science.

OPEN SCHOOLING WITH COLLABORATIVE SCIENTIFIC ACTION FOR ENVIRONMENTAL PROTECTION OF WILD ANIMALS IN THE SEMI-ARID NORTHEAST

Silvar Ferreira Ribeiro[1], Ana Karine Torres Rocha Dourado[2], Angela Emefa Yawa Tay[3], Bruna Barbosa Santos[4], Katiuscia da Silva Santos[5], Sonia Maria da Conceição Pinto[6]
[1,2,3,4,5,6] Universidade do Estado da Bahia, Brazil.

ABSTRACT

This study identified relevant scenarios and collaborative scientific actions to prepare young students to understand the problems of the natural environment caused by man and their consequences for the balance of the planet. The trafficking of wild animals, capture, marketing, and captivity of songbirds was chosen, because it has a strong impact on the environmental balance. The illegal transport, death and mistreatment of the birds that are the majority, many extinct and or threatened with extinction. The focus of the research is to answer the following question: how can the collaborative scientific partnership be co-evaluated by those involved in open schooling for the conception and implementation of curriculum plans in public schools of basic education?

The discussions in meetings, researches in scientific literature, dialogues between the participants resulted in the creation of the Rewinding Birds Brazil Project, linked to the Connect Project, in a public elementary school in the city of Irecê, in the State of Bahia, Brazil, with 34 teachers and 810 students from the Antônio Carlos Magalhães Municipal School. The objective was to implement collaborative scientific actions with open education. Education supported by open schooling for environmental protection has a key challenge to engage distinctive societal representatives to select real world scenarios to empower the youth to become scientific literates as responsible innovators for the green economy growth and responsible citizenship for a sustainable world (Okada et. al 2020).

Procedure

1. Open invitation and mobilization of basic education teachers, university, including researchers and undergraduate and doctoral students.
2. Weekly meetings to adapt the scenario to Rewilding Birds Brazil.
3. Coaching to support teachers in establishing partnerships and student-led scientific actions.
4. Co evaluation of results using the European project instruments adapted for Brazil.

Methodology

Exploratory action research with responsible research and innovation principles (RRI). Data from synchronous and asynchronous discussions using Microsoft Teams and WhatsApp for interaction with the subjects. The interpretation and model of CONNECT "Take Care-Act".

Preliminary results

The co-evaluation of several factors: The relevant and engaging scenario; principle of open schooling; collaborative scientific actions; planning and definition of study coverage and focus; mobilization of participants. Areas of law, pedagogy, language, biology, basic education; sciences; technological resources, analysis software, databases and ways of carrying out field activities.

Keywords: Open Schooling. Scientific Education. Collaboration. Sustainable Development. Environmental Protection. Responsible Research and Innovation - RRI.

SCIENCE TEACHERS AND RESEARCHERS AS A COMMUNITY FOR ADAPTING, DESIGNING AND IMPLEMENTING OPEN SCHOOLING FOR SUSTAINABLE DEVELOPMENT

Giorgos Panselinas[1], Antonios Sfounis[2], Maria Eleftheriou[3], Katerina Daskalaki[4], Eleni Korakaki[4], Avraam Apostolakakis[5], Panagiotis Toumpaniaris[6], Antonios Foundoulakis[7], Anna Karaiskou[7], Dimitrios S. Nikas[8], Eleni Likaki[8], Katerina Skaraki[9], Charalambos C. Katsidis[10], Iasmi Stathi[11], Panayota Koulouri[12], Wanda Plaiti[12], Dimitris Podaras[13], Konstantinos Chalkiadakis[14]

[1]Regional Directorate of P&S Education of Crete, Greece, Hellenic Open University, Heraklion, Greece.
[2]High School of Neapolis, Neapolis, Crete, Greece.
[3]High School of Limenos Hersonisou, Hersonisos, Crete, Greece.
[4]Model High School of Heraklion, Heraklion, Crete, Greece.
[5]1st Vocational High School of Arkalochori, Arkalochori, Crete, Greece.
[6] Model Junior High School of Heraklion, Heraklion,Crete, Greece.
[7]11th General High School of Heraklion, Hellenic Mediterranean University, Heraklion, Crete, Greece.
[8]Kounoupidiana High School, Chania, Crete, Greece.
[9]High School of Alikianos, Chania, Crete, Greece.
[10]4th General High School of Heraklion, Heraklion, Crete, Greece, Department of Materials Science & Technology, University of Crete, Greece.
[11]Natural History Museum of Crete, University of Crete, Heraklion, Crete, Greece.
[12]Institute of Marine Biology, Biotechnology & Aquaculture, Hellenic Centre for Marine Research, Heraklion, Crete, Greece.
[13]Institute of Oceanography, Hellenic Centre for Marine Research, Heraklion, Crete, Greece.
[14]EKFE Rethymnou (Educational Science Lab Center), Heraklion, Crete, Greece.

ABSTRACT

Open Schooling is a novel concept promoted by the European Commission since 2015. A key issue is that there are still limited resources and tools for promoting this approach in schools. “Open schooling is where schools, in cooperation with other stakeholders (scientists, families…), become an agent of community well-being;” (European Commission, 2015).

To explore this issue, a novel component in the CONNECT project developed by the Regional Directorate of P&S Education of Crete (RDE) team is the collaborative production of open schooling resources involving educational researchers and science professionals from Museums and Research Centers.

This exploratory study aims to examine procedures and benefits to promote collaboration among teachers and researchers. Qualitative data were generated by observation, discussions and semi-structured questionnaires.

Participants were 18 Science teachers and 4 science researchers coordinated by 2 coaches who worked together to:

a) recreate an educational scenario from “Rewilding Britain” to “Rewilding Greece”, to reintroduce marine and terrestrial animals that once existed in several ecosystems in Greece
b) co-design five new scenarios for promoting sustainable development: Renewable Energy, Global Warming - Chemical Pollution, Plastics, Measuring CO_2 for coping with pandemic Covid-19 aerosol transmission and using Map skills for problem solving, and
c) implement these resources with 13 secondary schools of Crete to augment the science capital of 336 students measured through a pre and post-questionnaires.

Findings revealed that three useful procedures to promote collaboration: 1. discussing educational scenarios to address relevant issues for the community; 2.identifying links to formal and non-formal learning objectives and 3. using the "open schooling" framework of Care-Know-Do (Okada, 2020) to prepare activities to engage students with teachers, researchers and parents.

These procedures were implemented through online workshops; five to prepare open schooling resources and four to organise and assess the implementation. Along with synchronous online tools we have been using asynchronous collaboration tools.

There were three key benefits of collaborative production of resources for the community members: 1. developing resources that can be used in activities in and outside schools; 2. providing students with activities that are more real with topical data selected by scientists including meaningful connection with the curriculum; and, 3. having students motivated with resources that enable them to become agents of sustainable development.

Keywords: CONNECT project, Open schooling, Greece, Sustainable Development, Community of Practice.

RRI IN AN INTERDISCIPLINARY APPROACH: DEVELOPING SECONDARY SCHOOL STUDENTS' MULTILITERACIES

Gabriele Polato Sachinski[1], Dra. Patrícia Lupion Torres[2], Dra. Raquel Pasternak Glitz Kowalski[3], Danielle Cristine Boaron Grunewalder[4].
[1, 2, 3, 4] PUCPR, Brazil.

ABSTRACT

In recent years, society has undergone transformations marked by scientific and technological development, which has brought new educational demands, such as finding new alternatives for a praxis that aims at the construction of knowledge aimed at training students as active subjects of society. The Functional Illiteracy Indicator, applied by the Paulo Montenegro Institute and Education Action in 2018, showed that 29% of Brazilian who participated in the study can be considered functionally illiterate, i.e., they do not demonstrate the ability to understand and apply written information and reflect on it. Okada and Sherborne (2018), Torres, Kowalski and Santos (2018), Okada (2015), Kowalski (2018) and Shimazaki, Torres and Kowalski (2018) were used as theoretical port, allying it with the theory of Multi-literacies, taking Rojo and Almeida (2012) as reference. Integration between the RRI approach, seeking an education for science along with the CONNECT Project, with the Multiliteracies theory, for an interdisciplinary performance between the areas of Natural Science and Portuguese Language. The purpose is to develop strategies that allow working with current issues in the field of scientific discoveries and innovations (Covid-19) in an analytical, critical, reflective and engaged way in Portuguese Language and Natural Sciences classes, through the development and application of a didactic sequence based on RRI skills. How can the use of RRI strategies and skills contribute to students' Multiliteracies, especially to their Scientific Literacy, helping in the formation of students-citizens who are more critical and able to reflect and act upon the society around them? The methodology used consists of a case study research (YIN, 2001), with the application of an interdisciplinary didactic sequence and qualitative analysis of the collected data. Two teachers, one from Nature Science and other from Portuguese Language, and two classes of 2nd year of secondary school in a private school in the city of Curitiba in Brazil, with about 30 students each. The results obtained suggest that the RRI approach, by providing interactive and collaborative learning, contributes to the students' Multiliteracies, especially for Scientific Literacy, making it possible to perceive a greater criticality in the moment of textual production, since, by stimulating the analysis of the effects of scientific and technological innovations in society, allows for an increase in the student's repertoire, and scientific knowledge is now applied to the social problem that serves as the basis for the theme of the proposed final activity.

Keywords: RRI. Multiliteracies, Portuguese Language, Natural Sciences.

DAY 2 – PARALLEL SESSIONS 2A: SOCIAL SCIENCES

PARADIGM SHIFT TO EMBRACE JUSTICE FOR WOMEN: A NEED

[1]Bhavika Bindra, [2]Dr. Shikha Kapoor
[1, 2]Amity University, Noida, India

ABSTRACT

In a culture, everybody has the opportunity to live his or her ideal lifestyle without discrimination. It is called fairness, until a state is achieved in which all persons are considered equal regardless of their caste, sex, colour, profession, or position. The most common type of prejudice is gender bias. Women want a dream; they govern to participate and flourish fairly by good governance. Female provides financial stability of steady investment and business empowerment; females look to those who have a greater impact on the development of long-term peace as well as resilience, and they all prosper fairly through prevention. Gender equality is a constitutional right for stability, security, and economic growth. Women are subjected to patriarchal legislation, societal norms, and thus are marginalized in the current elite. A cultural shift is required to bring about the reforms necessary to end women's inequality and injustice.

Approach: This paper deals with the status of women, their work arrangement, policies, strategies for their participation, sexual harassment, domestic violence, women trafficking, child marriage, acid attacks, etc.

Need: The need is for radical positive action to readdress the inequalities in women's lives and build a just and resilient world. There is also a need to spread awareness and empower women to fight for their rights.

Methodology: Secondary data is used to highlight the actual position, women's misery, and gender inequality in numbers. Various academic papers and related articles are compiled to throw some light on the status of women.

Conclusion: Women's participation, gender wage disparities, and educational attainment remain challenges. Women have historically been looked at with scorn for decades, with numerous strictures inflicted on them restricting their standing to the whims of men. They've been restricted to the hearth and the house. However, society's perspective has shifted, and a general mindset is being formed to strive for the emancipation and advancement of women so that they can also contribute to the enhancement and wellbeing of society.

Keywords: Justice, Women, Growth, Equality, Gender.

CHANGING CULTURAL DIMENSIONS OF INDIAN DIASPORA: A STUDY ON HOFSTEDE MODEL

Anupama Verma[1], Kritika Raj[2]
[1]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, Jharkhand, India.
[2]Master of Business Administration, Department of Management, IBM, Jadavpur University, Kolkata, India.

ABSTRACT

The culture of a group of people or country refers to the experience, knowledge, beliefs, values, attitudes, and possessions of material objects acquired through generations, communicated, and transmitted from one generation to another. The individual's behavior pattern is guided by the cultural belief of the group he or she belongs to and the learning through experience, perpetuated in a society through various institutions. India is a diverse country with various religions, cultures, dialects, beliefs reflected through their diverse behavior. These beliefs and behaviors of the individuals are reflected in the organizations they are associated with and play a crucial role in determining the organizational culture and work environment.

The Dutch Psychologist Hofstede studied people of different origins and cultures to determine their behavior patterns in the organizations. As people's culture and beliefs are changing with the influence of various external factors and their exposure to international dimensions, it becomes necessary to study the changes experienced by the Indian society, which molds the future of the organizations. In this paper, an attempt has been made to study the change in cultural dimensions of people residing in different geographical locations of the country with different educational and experiential backgrounds, exhibiting diverse behavior through different social learning. The analysis of the cultural evolution will assist the organizational change practitioners to introduce change and development in their organizations successfully according to the requirement of the society. A questionnaire method has been adopted for collecting the responses from different regions of the country. The Reliability Analysis has been done to check the reliability of the scale employed in the study. Further, Descriptive Statistics showed interesting results.

Keywords*:* Culture, Organizational Development, Organizational Culture, Hofstede Model.

COVID-19 UPSHOTS ON STUDENTS' HEALTH, EDUCATIONAL AND SOCIAL LIFE: AN EMPIRICAL STUDY

Dr Dhanonjoy Kumar[1], Dr Md. Saiful Islam[2], Dr Miah Md Rashiduzzaman[3]
[1]Associate Professor, Department of Management, Islamic University, Kushtia, Bangladesh.
[2]Professor Department of Management Studies, University of Rajshahi, Rajshahi, Bangladesh.
[3]Professor, Department of English, Islamic University, Kushtia, Bangladesh.

ABSTRACT

Due to the Covid-19 virus, almost all the countries of the world have fallen unawares into the trap of the reality of disruptions and instability, requiring painful adjustments to the new reality. Bangladesh is no exception, but it has tried above par to confront and handle the acuteness and effects of the pandemic on the public health, economy, and society. The struggle is still ongoing and so, it is essential to understand the nature of the influences of the virus to chalk out proper preventive and recovery measures in order to handle it effectively and professionally. The intention of this research is to find out the influences of covid-19 on students' health, educational and social life in the perspective of Bangladesh. The research work has employed a descriptive survey with a structured survey questionnaire and interactive interview for collecting the possible data. Some important statistical tools like chi-square test, factor analysis and regression analysis have been deployed for analyzing the data. Covid -19 virus has affected the stoppage of the consistent academic core curriculum of about 40 million students through the state from 17 march, 2020 to date. The government and concerned authorities have by far taken some initiatives for students e.g., out-school online learning and using TV media to deliver education during the pandemic but these do not meet the desired levels of satisfaction. The study has yielded that school closure has brought about disruptions to education, hampered regular routine learning, changed lifestyle, increased students' violence, invigorated social media addiction, created unemployment and increased poverty levels.

Keywords: COVID-19, Student, Social Life, Online Education, Bangladesh.

GENDER EQUALITY FOR SUSTAINABLE DEVELOPMENT GOALS

Dr Jagnaseni Panigrahi, Asst Professor in Education, Chatrapur Women's Degree College, Odisha, India.

ABSTRACT

Gender equality, Women's empowerment and the realization of women's rights in achieving sustainable development has been increasingly recognized in recent decades and intrinsically linked to sustainable development goals and the 2030 agenda. On 1st January 2016, the world officially began implementation of the sustainable development plan of action based on 17 sustainable development goals to address urgent global challenges for the next 15 years. Achieve gender equality and empower all women and girls is one of 17 global goals. It has been identified as a key component and placed at the care of sustainable development goal number 5. But why is this goal regarded as indispensable to achieving sustainable development. Because approximately 1.4 billion women and girls are still victims of discrimination, violence, harmful practices and sexism. Violence against women is a major barrier to the fulfillment of human rights and a direct challenge to women's inclusion and participation in sustainable development and sustaining peace. Women still don't enjoy the same conditions in the workplace as men. Despite massive progress, women's rights remain a critical issue throughout the world. Women are confronted with a systematic denial of rights where legal discrimination leaves them inferior to their male counterparts. Consequently, women globally lack a full realization of their fundamental human rights. Gender inequality still existing in the world today. This study is mainly focused to discuss about how empowering women and promoting gender equality is crucial to accelerating sustainable development. In turn, sustainable development goal 5 also is used as a platform to help successfully achieve the rest of the 16 goals. In this study the researcher uses a descriptive qualitative approach.

Keywords: Gender, Gender Equality, Sustainability and Sustainable Development Goals.

DISABILITY AND DISCONTENTMENT: A STUDY OF SOCIAL EXCLUSION IN INDIA

Dr Sharada Prasanna Rout, Assistant Professor in the P.G. Department of Political Science Berhampur University, Ganjam, Odisha, India.

ABSTRACT

This Paper is broadly going to focus on the issues, related to disability and discontentment and social exclusion of India in general. In particular, to highlighted about the Odisha disability's deprivation and related to their social exclusion. How the disable person's live status is dealt by the government policies and plans? Which is clearly reflecting in the field of education, health and employment etc. It evidently reflects that how they have excluded from every important position of the state inclusive agenda. Unfortunately, persons with disabilities are routinely subjected to all forms of discrimination, denial, and deprivation of rights with the result that they are often marginalized and excluded and are made to live in a state of relative invisibility, disempowerment and disarticulation. The world is home to over 600 million people with disabilities. Over two-thirds of them live in developing countries. In this context it can be argued that disability is both a cause and consequence of poverty.

In such view point, this paper is going to argue that seven decades have already passed so far. Now the time has come to ask a very pertinent question to ourselves: have we really been able to achieve such values? And have we been able to give every citizen a share in the system? These are certain questions which I will be addressed in my paper in terms of inclusive policies and welfare measures initiated by our state for the most neglected and marginalized sections of the Indian society i.e. people with various disabilities.

Also, this paper will highlight a broad viewpoint of Amartya Sen in his work "Development as Freedom", argued that, development or wellbeing has to be majored in terms of facilities and services that are available for the fulfilment of the basic needs of human beings in terms of food, shelter, clothing, education and health and also freedom from poverty, disease, illiteracy, ignorance, unemployment and malnutrition. Development has to be understood as freedom from all kinds of exploitation and awareness about one's social and economic position.

Keywords: Discrimination, Discontent and Exclusion.

DAY 2 – PARALLEL SESSIONS 2B: SOCIAL SCIENCES

REFLECTIONS OF YOUTH ON USAGE OF SOCIAL MEDIA

Meera Swami[1], Dr Sunita Magre[2]
[1]Ph D Student, Department of Education, University of Mumbai, India
[2]Professor, Department of Education, University of Mumbai, India

ABSTRACT

The world has turned into a global village since everyone is connected to each other through social media. Social media has been extensively embraced with high dynamism especially among youth across the globe. Hence, it is important to understand the trends with regard to social media usage among youth. Based on review of various studies regarding social media, it was observed that social media is greatly impacting the lives of youth. In contrast to the West, there is a dearth of studies focusing on social media use by youth in India; therefore, a necessity was felt to carry out this study on the reflections of youth on usage of social media in the Indian scenario. The main objectives of this qualitative study are to understand the outlook of youth regarding social media; the ways of accessing social media, the extent and the purposes of social media usage among youth; and the problems encountered related to social media usage. The sample for this study will comprise of 25-30 undergraduates and post-graduates in the age group of 18-25 years, from various streams of science, commerce and humanities from South Mumbai. For the purpose of data collection, in-depth interviews will be conducted for which open-ended, unstructured interview protocol and a personal data sheet will be used. The data analysis technique will involve arranging the data into codes, categories and broad themes. The data interpretation will be carried out according to the final themes that emerge subsequently. This study will fill lacuna in the existing literature, create awareness for responsible usage of social media and will guide further research along with government and other stakeholders.

Keywords: Reflection, Social Media, Youth, Social Networking Sites.

MANAGING FACTORS INFLUENCING THE CONSTRUCTION OF ROAD OVER BRIDGES; A CRITICAL ANALYSIS

Mr Amit Kumar Das[1], Dr Manas Naskar[2]
[1]Research Scholar, Department of Commerce, Raiganj University, India.
[2]Associate Professor and Head, Department of Commerce, Raiganj University, India.

ABSTRACT

Infrastructural development is an essential criterion for the overall development of any nation which includes: Roads, Over Bridges, and Flyovers etc. As population ratio of India is much higher than any other third world country, the policy for development nature should be more effective. The periodic labour force survey (PLFC) of the national sample survey office showed that the worker population ratio in India stood at 46.8% in the 2017-18 fiscal year. The unemployment rate in the year of 2019 was 5.36%. But in the pandemic situation, it has increased up to 6.8% (updated CMIE unemployment rate 2020). It has been seen that, due to various factors, majority of infrastructure projects are affected by time delay and it leads to cost overruns, moreover these overruns vary from a few months to as high as five or more years, placing the project viability at risk. The road over bridge (ROB) can be defined as a grade separated bridge structure with gradient approaches on both sides. People's lives are getting faster. People become engaging their life with various work places, developing life style and their expectations for development towards nation is growing very fast. Roads are one of the main mediums of transportation, so the traffic at any level crossing (LC) is becoming large and the main problem of waiting at LC leads to loss at man hour, fuel, consequent loss of GDP, increasing sound pollution and finally damnification of a fast growing economy. The Industrial sector is second largest sector of India (Source: statistic times.com) and contribution has accounted for around 40% at the development investment during the past 50 years. Around 16% of the nation's working population depends on construction for the livelihood. This study not only examine the cost overrun and delay factors but also, to contribute something to the society for the development of employment level. An observation can be made to generate an idea on economy and it may help to fill the gap of loss due to some common factors like time delay, cost, quality and design. Therefore, our study will gradually focus on ways to build up a linkage between the economy and development of the nation through a structured framework keeping emphasis on the quality improvement of ID particularly by constructing over bridges or smooth running as well as easy movement.

Keywords: Infrastructural Development, Road Over Bridge, Cost Overrun, Time Delay, GDP.

FRIENDZONE: A REMEDIAL SOCIAL MEDIA PLATFORM FOR SOCIAL ANXIETY DISORDER

Praseetha M S, Assistant Professor, Department of Management Studies, St Teresa's College (Autonomous), India

ABSTRACT

The present study explores the concept of Blockchain Technology with special reference to its implications in the perspectives of anxiousness and fearfulness in common people due to usage of their data through social media. Many businesses run successfully by using the data about a large set of unknown customers. We people are in the dark about data and scared of being spammed or scammed. With the immense usage of social media platforms, we unknowingly share our data through simple search button clicks, creating accounts on e-commerce websites, following others' business profiles, etc. The paper discusses the enormous possibilities of using social media platforms that ensure data privacy and security through block chain social media platforms. Introduction of a blockchain social media application "FRIENDZONE" that does most of the functions or tasks that we have usually done on social media platforms like Facebook, Instagram, etc.

Keywords. Social Anxiety Disorder, Blockchain Technology.

CYBER BULLYING AND COPING MACHANISM AMONG ADOLSCENTS

Priya, Assistant Professor, Guru Nanak College of Education Dalewal, Dist Hoshiarpur, Punjab India.

ABSTRACT

Modern Era has a strong focus on the use of technology, realizing that it is one of the key elements of providing learning resources and technology has made possible the easy access of everything especially with the help of internet. The online environment dominates a significant part of the lives of our younger generation today and thus become a frequent place for peer abuse and bullying. This cyber bullying can be neglectful or overindulgent or dictatorial or based on reasoning. The culmination of the effects of cyber bullying may be seen in the adolescent who is on the threshold of independence. Coping mechanism are learned behavioral patterns used to cope. In order to cope effectively with stressful event, one requires several discrete emotions – based developmental tasks such as recognizing danger and frustration tolerance. How well adolescents study, more often not, depends on the home environment and the way they are supported by their parents. This investigation therefore has attempted to find out whether the coping mechanism influences cyber bullying. The sample consisted of 160 senior secondary school students of distt Hoshiarpur Punjab (India). The tools used were self-prepared questionnaire on awareness about cyber bullying and coping mechanism. The analysis of data was mainly carried out through t-test and correlations. The results indicate that there is a strong relationship between coping mechanism and cyber bullying. To inculcate coping mechanism, parents need to be realistic about their expectations from their children as well as their own principles and actions in their daily lives. It is imperative that you ensure that your child engages more in offline activities than an addiction to computers, online gaming, and smart phones.

Keywords: Coping Mechanism, Cyber Bullying, Adolescents.

IMPACT OF COVID-19 ON SUSTAINABLE DEVELOPMENT GOALS

Sanchika Taneja, Research Scholar, Department of Community Education and Disability Studies. Panjab University Chandigarh. India

ABSTRACT

Normal lives during a pandemic come to a standstill and the impact of such an outbreak is felt even in the remotest of area of interest to various stakeholders. From disturbance in trade and economy to fulfilling basic human needs to unprecedented disruptions in imparting education to students. The impact and magnitude of such an outbreak can only be felt in the number of losses occurred in terms of humans lives lost and trade and economy slowdowns. While one prepares for the worst outcomes to come, one never expects the worst to come until it already is at the door and knocks it. One such pandemic the world faces right now is COVID-19 which has left the world helpless. The historic spread of this virus has resulted in drastic slowdown of lives of people, businesses are shut and economies are experiencing turbulence. The global recession caused by the COVID-19 response is alarming and has made researchers question whether the sustainable development goals (SDGs) are fit for the post-pandemic age. Some have even claimed that certain SDG targets might be counter-productive because they enhance growth rather than development. We argue that the COVID-19 crisis demonstrates the need to integrate the SDGs at the national level as well as in individual health-care decisions. We also call for a focus on sustainable health decisions, meaning decisions that are made in the present do not compromise future needs, whether local or global. Making such decisions requires adapting to the current context, anticipating future impact, and using a rights-based framework. Every individual needs to make health decisions that meet personal needs as well as the needs of the broader community, such as using facemask, sanitize hands frequently, maintaining social distancing and home-quarantine when necessary. Such decisions can help to curb transmission and reduce illness, deaths and economic impacts.

Getting “back to normal” is simply not feasible—because “normal” got us here. The crisis has shown us how deeply connected we are to others and to the planet. COVID-19 is forcing us to revisit our values and design a new area of development that truly balances economic, social and environmental progress as envisioned by the 2030 Agenda and the SDGs.

Keywords: COVID-19, SDGs, Global Recession, Sustainable Health Decisions, Trade and Economy.

A STUDY ON "IMPACT OF SOCIAL ISOLATION ON ELDERLY AND SOCIAL INCLUSION OF ELDERLY THROUGH SOCIAL WORK INTERVENTION FOR SUSTAINABLE DEVELOPMENT" WITH SPECIAL REFERENCE TO OMASHRAM OLDAGE HOME AT BANGALORE

Mrs Anitha Sannakamaiah, Faculty, Department of Social Work – MSW, Ramanagara PG Centre, Bangalore University, India.

ABSTRACT

Introduction

Aging is a normal process of each human being in his/her lifespan development. In each phase of human life, one or the other way we were connected with family, friends, colleagues more with the society through social relationships. Elderly life will become more wretched as they were lacking family support, retirement, diminishing joint families, death of their friends/colleagues, prone to life threatening illnesses, feeling isolated and neglected by relatives, friends, society. Due to all these issues, they feel isolated, try to make suicidal attempts, eagerly waiting for their children and grandchildren will visit them to provide emotional support and they can go back to their home with their children. In current scenario, it is highly difficult task to change the mindset of new generation and intergenerational bonding is required to change the society. So, it is an effort of the researcher to build social relationship in the society and with the elderly through social work strategies.

Objectives of the study:

- To understand about the social isolation and its impact on their life
- To know about the social work intervention for social inclusion of elderly for sustainable development

Methodology: The Present study is based on descriptive research design. The study impound to elderly who is 60 years and above. This paper is to comprehend the social work perspectives to address the significance of family and societal support for elderly social inclusion.

Results: To educate new generation to understand the family values and provide emotional support to lead contemptful life through intergenerational bonding for sustainable development in geriatric social work.

Conclusion: Ever since elderly were lacking family support, emotionless life, diminishing joint families, acquisitive mindset, today's world is losing the significance of elderly. Social workers should formulate social work strategies to strengthen the elderly to lead contemptful life.

Keywords: Elderly, Social Isolation, Family Support, Social inclusion, Sustainable Development.

SCHOOL AS THE MESSIAH OF SUSTAINABLE DEVELOPMENT: A MULTIPLE CASE STUDY OF THREE LEADING RURAL SCHOOLS OF WEST BENGAL

Chaitali Halder[1], Sagnika Sahoo[2]
[1]M.Ed. 2nd Year, Institute of Education for Women, Hastings House (CTE), WBUTTEPA University, Kolkata, West Bengal, India
[2]Assistant Professor of Bijoy Krishna Girls' College, Howrah, West Bengal, India

ABSTRACT

Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people have peace and prosperity. Education, the guiding force to create worthy, dignified, responsible, productive, philanthropist citizens of the world, can only ensure peace and prosperity to all people. That is why Education is considered to be the most influential medium to achieve the goals of Sustainable Development. As it is quite easier to develop among the young learners the attitude and values which are instrumental to achieve sustainable development goals, the present study is an attempt to explore those school where initiatives & innovative strategies have been taken for achieving the goals of sustainable development like- No poverty, zero hunger, good health and well-being, quality education, clean water and sanitation, industry, innovation and infrastructure, reduced inequality, climate action, peace & justice, etc. for which the schools are working in partnership with the communities. The study also aims to analyze the impact of the activities to change the attitude and values of the learners to accelerate the journey to achieve the goals of sustainable development. Case study research design has been followed for the present study and 3 Higher Secondary schools located in remote rural areas in West Bengal, India which have been working excellently to achieve the goals of sustainable development are selected as sample for this study. In order to collect in-depth data from the participants, semi-structured interview schedule with the self-made questionnaire focusing on selected Sustainable Development Goals, has been administered. The qualitative data has been analyzed by using narrative analysis technique. The study has found out that the initiatives not only enriched the quality of education but also changed the attitude and values of the learners that are instrumental to achieve the goals of sustainable development because they are the future citizens of the country and of the world as well upon whom the well-being of the planet depends on. It also has an indirect impact on the families and communities on a large scale. Thus, the study has explored how schools can work as a messiah to achieve the goals of sustainable development.

Keywords: Case Study, Sustainable Development Goals, School Education, Impact on Students and Community.

DAY 2 – PARALLEL SESSIONS 2C: SCIENCE

COMPARATIVE STUDY ON PHYSICOCHEMICAL STATUS AND DIVERSITY OF MACROPHYTES AND PHYTOPLANKTONS OF MANASBAL LAKE, KASHMIR, INDIA

Jahangeer Mohd Reshi[1], Dr. Jaya Sharma[2], Dr. Ishtiyaq Ahmed Najar[3]
[1, 2] Department of Environmental Sciences, Madhyanchal Professional University, Bhopal, India
[3]Department of Environmental Sciences, Govt. Degree College, Ganderbal, Kashmir, J & K, India

ABSTRACT

Present investigation has made an attempt to assess the seasonal variation of phytoplankton, macrophyte communities and some physico-chemical properties such as water temperature, pH, electrical conductivity, dissolved oxygen, transparency and biochemical oxygen demand in six selected sites in the Manasbal lake of Kashmir Himalaya. During the study a total of 101 species of phytoplankton belonging to different taxonomic groups were identified out of which 49 species of phytoplankton belonged to Bacillariophyceae, 39 to Chlorophyceae, 07 species to Cyanophyceae, 03 species to Euglenophyceae, 02 species to Dinophyceae and 01species of Chrysophyceae. The species occurrence of the different study stations reflects relationship between season and physico-chemical properties of the water. The phytoplankton density was high during summer season and low during winter season with Bacillariophyceae formed the dominant group. From the present study, it can be concluded that the higher values of total Phosphorus (350 μg/l), Alkalinity (242 mg/l), Chloride (30 mg/l) Electric Conductivity (563μS/cm), Total suspended solids (433.0 mg/l), BOD (57mg/l), COD (170 mg/l), NO_3-N (408μg/l), NH_4-N (121μg/l) and lower values of dissolved oxygen (2 mg/l) and transparency (0.2m) clearly depicted higher trophic status of Manasbal Lake. It can also be concluded that climatic factors, untreated sewage and solid garbage from surrounding population, fertilizers containing Nitrates and Phosphates and slit load were the main causes for degradation of water quality of the studied lake. For lake water management, powerful control and management mechanisms such as community perceptions and priorities are also required. In addition to frequent monitoring of Manasbal Lake, the quality of water for human and animal use and for aquatic life needs to be evaluated. In order to save it from further contamination and deterioration, urgent remedial steps should also be taken to preserve and sustainably manage this monomictic lake.

Keywords: Manasbal Lake, Phytoplankton, Physico-chemical, Eutrophication.

SPECIAL ISSUE OF CHEMISTRY TEACHER INTERNATIONAL ON GREEN CHEMISTRY AND SUSTAINABLE DEVELOPMENT

Prof Jan Apotheker, Editor in Chief, University of Groningen, the Netherlands.

ABSTRACT

Chemistry Teacher International(CTI) is an open access journal published by DeGruyter in close cooperation with the Committee on Chemistry education of IUPAC and the Division on Chemistry education of EuChemS. The first issue of the journal was published in 2019. The first issue of volume 3, containing 15 articles was published recently. All issues are available at the following URL: https://www.degruyter.com/journal/key/CTI/html .

The journal was set up to bridge the gap between educational research and educational practice in the classroom. It accepts articles describing good practices that teachers wish to share with the teaching community around the world. All levels of education are accepted in the journal.

CTI is an open access journal. This choice was made deliberately in order to make articles available in all countries. In order for the journal to be economically feasible an Article Processing Charge has been set, starting in volume 3. The Article Processing Charge has been set as low as possible. Reductions of 50% and waivers of 100% for authors from emerging economies are in place. Members from IUPAC and EuChemS also receive a reduction on the APC.

CTI is planning special issue on Green Chemistry and Sustainable Development for the September issue of 2021. In this issue examples of choices made in industry for a greener process or the application of Sustainable Development principles are described in such a way that they can be used in education as examples. In many chemistry curricula Green Chemistry has become a feature. The curriculum in the Netherlands is an example(Apotheker, 2018) But the concrete examples of green processes is limited. In this issue sofar 8 abstracts have been received, which will be discussed in more detail in the paper.

Apotheker, J. H. (2018). The Development of a New Curriculum for Chemistry Education in The Netherlands. In C. Cox & W. E. Schatzberg (Eds.), International Perspectives on Chemsitry Education Research and Practice (pp. 79–91). American Chemical Society. https://doi.org/10.1021/bk-2018-1293.ch006

Keywords: Chemistry Education, Green Chemistry, Sustainable Development, Publications, Industrial Chemistry, Pharmaceutical Chemistry.

DAY 2 – PARALLEL SESSION 2D: HEALTH & PURE SCIENCES

AN EMPIRICAL STUDY OF THE RELATIONSHIP BETWEEN VACCINATION IN INDIA AND NIFTY PHARMA INDEX

Dr Anupam Karmakar, Assistant Professor of Commerce, New Alipore College, Kolkata, West Bengal, India

ABSTRACT

This paper will analyze the relationship between the second wave of COVID-19 pandemic and share prices of Nifty Pharma Index. For the analysis this paper will consider historical data of share prices of around past 6 months of this ongoing pandemic to determine whether the pandemic is influencing the share prices of Nifty Pharma Index, and if so then how. Detailed data will be collected on the share prices of the Nifty Pharma Index and its constituent companies during the period of second wave. The paper will analyze the collected data to study the variation of share prices of these companies due to the pandemic and lockdown i.e. during May 2021. Prediction of share prices of Nifty Pharma Index for the coming months i.e. June to September 2021 will also be made in the study, if the pandemic extends for that period. The objectives of this study are: (i)To determine the trend of Nifty Pharma Index during the second wave of the pandemic, (ii) To examine if the second wave influence Nifty Pharma Stock Price (iii)To find out the correlation between Nifty Pharma Stock Price and vaccinations done during this time and (iv)To predict the Nifty Pharma Stock Price for the coming months. on the analysis and findings of the study conclusion and suggestions will be made.

MOTIVATION AND WORK CONDITIONS OF HEALTHCARE WORKERS - A STUDY ON COVID-19 FIRST WAVE

Richa Sahay[1], Dr. Anupama Verma[2]
[1]Research Scholar, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, India
[2]Assistant Professor, Faculty of Business Management & Commerce, Usha Martin University, Ranchi, India

ABSTRACT

In the ongoing health crisis of COVID-19, the health care workers dedicated to serving the sick have become vital and the only resolution. The healthcare sector that deals with human lives currently needs pressing utilization of its resources to touch each person. That can be addressed with employee's motivation and improving their work conditions that are the significant markers of quality of any enterprise.

Therefore, this study is aimed to investigate the motivation and prevailing work conditions of the health care workers during the first wave (March to June 2020) of COVID-19. As a method, an online survey using Google forms was distributed to health care workers working in three different locations in India. (N=84) The questionnaire was designed to explore the demographics, motivation, and factors concerning the prevailing work conditions during the 1st wave of COVID-19. Descriptive statistics (mean and standard deviation) were applied that were analyzed using PSPP Statistical Analysis Software.

This finding of the study foregrounds the necessity of adequate work conditions and safety for enhancing the motivational levels of the health care workers. That is indispensable for constructing a robust health care sector for the forthcoming times to be equipped for future occurrence of pandemics while remaining sustainable. Finding from this study can also provide a solution to the policymakers, administrators, planners, researchers, and NGO's looking towards better management of work conditions and health care workers' motivation to the continuing pandemic of COVID-19.

Keywords: Motivation, Work Conditions, Healthcare Workers, COVID-19.

SELECTION OF MOBILE APPS FOR CHILDREN WITH AUTISM SPECTRUM DISORDER DURING PANDEMIC

Ms Viviane Cristina Marques, Student, Universidade Estadual de Campinas, Brazil.

ABSTRACT

The impacts of the Covid-19 pandemic on educational processes have intensified the challenges experienced in the education of students with Autism Spectrum Disorder (ASD). ASD is defined as a neurobiological condition characterized by severe and invasive damage in the areas of interaction and social communication and by a restricted and stereotyped repertoire of activities and interests. During the period experienced as a result of the isolation imposed by the emergency situation, teachers and families had to adapt to new contexts. Thus, the use of digital resources was necessary to maintain students' activities. Therefore, this study aims to present a mapping and systematization of mobile applications for people with ASD. A survey was conducted on the platforms: Apple Store and Google Play. The descriptors used were: autism, autistic children, autism apps, autism games and autistic space. 81 applications were identified, and 53 were selected, of which 23 are open access (free) and 30 limited access (free and paid). From this analysis it was found that the applications are about: educational games, aimed at literacy and the development of reading and writing; applications aimed at developing social and emotional skills; applications for pairing, communication and intellectual development and for routine organization. Applications designed for routine development have an intuitive interface facilitating children's interaction. Its content is gamified to encourage the user to perform the tasks. Applications that have a job related to emotions are structured from narratives providing greater contact and communication between the user and the device and the content. Alternative communication applications have different options, providing choices that help the user to identify themselves. It was found that the categories with the most development of games and applications for children with ASD are aimed at the early stages of education, communication, routines, social skills and emotions. Applications for students with ASD are considered assistive technology resources and can be used in educational processes and for the development of different skills.

Keywords: Autism Spectrum Disorder (ASD), Mainstream Education, Pandemic, Mobile Applications.

DAY 2 – PARALLEL SESSIONS 2E: MANAGEMENT, MATHEMATICS & LANGUAGE

SUSTAINABILITY CONSCIOUSNESS A STUDY ON ATTITUDE OF UPCOMING BUSINESS LEADERS TOWARDS SUSTAINABILITY

Divya Juneja[1], Dr. Sukhjeet Kaur Matharu[2]
[1]Assistant Professor, Apex Institute of Technology, Chandigarh University, India
[2]Assistant Professor (Senior Grade), Prestige institute of Management and Research, India

ABSTRACT

Purpose: With enhancement of uses of technology, remote working and advancements at workplaces, the concern of leaders has shifted from sustainable development to competition and technological achievements. Further, it is very important to have a conscious attitude towards various dimensions of sustainability (Social, Economic and Environment) in upcoming leaders to build a sustainable future for current and upcoming workforce.

Methodology: An empirical research was carried out, in which 152 students of MBA Course have participated of Chandigarh City. The data collection was done online using five point Likert Scale and items for construct in study were taken after through Literature review. The R 3.6. 2 was used for data analysis and hypothesis testing and graphical representation.

Findings: It was found that the test is appropriate to estimate the dimensions of sustainability consciousness of Upcoming Leaders. Specifically, we found that these students score moderate in all the three dimensions of sustainability attitude. Very minute difference has found in Social, Economic and Environment dimensions in terms of gender. This results highlighted the need of increasing sustainable awareness in young upcoming leaders.

Practical Implications: The results provide a clear view that with the changing time and getting into more technological world, it is very important to provide awareness of sustainability to the upcoming leaders. This awareness can be given through the university education. This will make young people to develop an attitude towards the sustainability and will make them work and think about different dimensions.

Social Implications: This study is an initial exploration of what young upcoming leaders may need to focus on in order to cultivate leadership with the capacity to address very complex social, economic, and environmental challenges.

Contribution to the conference**:** The research paper serves a humble contribution in the field of Sustainability and education, which considerably matches with the theme of conference**.**

Keywords: Upcoming Leader, Sustainability, Adult Development, Attitude, Sustainable Consciousness.

DIFFERENT TRIGONOMETRIC SPLINE CURVES AND THEIR APPLICATIONS

Dr Urvashi Mishra, Mata Gujri Mahila Mahavidyalaya, Jabalpur, MP, INDIA

ABSTRACT

In recent year's trigonometric splines have found many interesting applications in problems involving geometric modeling and it has been observed that many problems of surface modeling could be better handled by trigonometric splines specially those relating to data fitting on spherical object. All these possible applications have led to introduction of various types of trigonometric splines having different features suitable for CAGD applications. The objective of the study is to find spline function approximation techniques as a powerful tool in the field of Computer Aided Design and Computer Graphics. As a unified mathematic model with many desirable properties, spline functions can be applied very conveniently in modeling free form curves and surfaces. In the present study the main objective is to construct some spline curves and surfaces with a good range of shape parameter that provide local control, sufficient continuity and possess satisfying shape preserving properties. The scheme which be developed in the chapter should be very easy to implement, convenient and economical and the curves visually pleasant.

Keywords: Bézier Trigonometric Bases Functions, Bézier Trigonometric Curves and Surfaces, Trigonometric Polynomial, Shape Parameter.

THE TEACHING OF MATHEMATICS AS A HUMANIZED AND ENCULTURED PROCESS FOR SUSTAINABLE DEVELOPMENT

Professor Zingiswa M M Jojo, University of South Africa, South Africa.

ABSTRACT

Mathematics is not seen as an absolute corpus of well-founded knowledge anymore, but as a human activity, a social phenomenon, part of human culture, historically evolved and intelligible only in a social context. It is also important for teachers to explain why a mathematical concept is worth knowing and understanding together with how it relates to other concepts in both theory and practice. The paper reports from a mixed methods approach research project that analysed the teaching and learning environment that promotes mathematics as an enculturated process for sustainable development. The main research question was: How can mathematics in the senior phase be taught as a subject that embraces culture for sustainable development? From a population of 126 senior phase mathematics teachers in the Bizana district, a sample frame of 60 teachers was used for the study, obtaining a stratified random sample of four teachers. Questionnaires were administered to the whole population, after which semi-structured interviews were conducted with four teachers based on their responses in the questionnaires. Results indicated that the use of mother tongue and visual representations in learning activities promote the learners' development of their own meaning-making processes. It was also found that the introduction of multiple meanings each mathematical concept taught enabled its connections to culture for sustainable development.

Keywords: Mathematics; Teaching; Culture, Connections, Sustainable Development.

IMPACT OF HIGHER EDUCATION SYSTEM IN DEVELOPING ENTREPRENEURSHIP SKILLS

Dr Muktha Manoj Jacob[1], Rishika Bhojwani[2]
[1]Head, Dept. of English & Business Communication, NM College, Mumbai, India.
[2]Assistant Professor (Visiting Faculty), NM College, Mumbai, India.

ABSTRACT

Higher education institutions are required to demonstrate the ways in which their students respond to the social and economic needs of society. Higher education also triggers for entrepreneurship skills and employability skills. Study is to identify the contribution of higher education in postgraduate management to develop entrepreneurship skills. Besides academic knowledge which students acquire in their high education it is equally important to develop skills related to leadership, teamwork, resilience, communication which are essential for entrepreneurship.

Hence, a 'holistic' approach for exploring the entrepreneurial and innovative potential of the university as the basis for change and future development (Gibb, 2012) is a necessity. For this, a certain degree of autonomy is needed both at the level of individual staff as well as for the organisation itself. Regarding entrepreneurship, the literature shows the importance of the soft skills related to leadership, moral values and ethics, communication and also the ability to adapt to new work contexts are inevitable. (Bell 2009; Beckton 2009; McIntosh 2008; Eisen et al. 2005; Leroux and Lafleur 2006)

Purpose: Purpose is to study the impact of higher education on development of entrepreneurial skills. Various components of higher education such as teaching and learning methods, Use of advance technology, Industrial visit, Internships etc, Results and conclusion of study will provide suggestions to higher educational institute to improve curriculum or to make necessary modification.

Methodology: Type of research is primary. Questionnaire method will be used to collect data from around 100 respondents who are the students of Post Graduate programs.

Contribution: This study specifically deals with how entrepreneurship skills will help students develop higher education system. And also what the education system provide to stakeholders and approach towards them.

Keywords: Higher Education, Entrepreneurship Skills, Leadership, Management, Communication.

DAY 2 – PARALLEL SESSIONS 2F: HIGHER EDUCATION – ONLINE LEARNING AND FUN

SHOULD 'MEANINGFUL' ONLINE LEARNING EXPERIENCES BE FUN FOR HIGHER EDUCATION STUDENTS IN INDONESIA?

Kieron Sheehy[1] Sujarwanto[2], Khofidotor Rotofiah[3], Budiyanto[4],
[1]The Open University, United Kingdom.
[2,3,4] Faculty of Education (FIP), State University of Surabaya, Indonesia.

ABSTRACT

Indonesia is the 'most diverse multi-ethnic state in the world with very low enrolment rate in tertiary education (36%) comparing to primary education (93%) and secondary education (79%) according to UNESCO Institute for Statistics. There are 4 kinds of *tertiary education* institutions in *Indonesia*, namely polytechnics, academies, institutes and universities.

A key issue highlighted by the Ministry of Education and Culture is to provide 'meaningful' online learning experiences for their H.E. students, which was aggravated by the pandemic. Eight million of tertiary students are experiencing distance education for the first time in Indonesia. Examining approaches to 'meaningful' online learning experiences became extremely relevant. 80% of institutions whose students have left campus and returned to their home locations are concerned about how to support students' retention and progress. To explore the needs and views of H.E. students, this work examines epistemic beliefs and relationships between fun and learning.

In addition, previous work in Indonesia suggests that international epistemological research needs to have a more differentiated view of learning models in order to better understand and inform how more meaningful pedagogies can be applied (Budiyanto et al, 2018) in all levels of education. This study in Indonesian tertiary education is supported by a recent research (Okada & Sheehy, 2020a) which has identified two key factors students' epistemological beliefs and their beliefs about fun in learning. These factors are relatively underexplored in distance education.

Through a mixed-method approach, this study examined questionnaire responses from 774 students from across Indonesia. Findings shows that five themes emerged which reflected relationships between students' epistemological beliefs and beliefs about study and enjoyment. A key issue that emerged from the findings is the lack of enjoyment with online study including a dissatisfaction with a content delivery approach to online teaching. These findings will be used to provide recommendations for tertiary education in Indonesia.

Keywords: OLAF, Indonesia, Online Learning and Fun, Epistemic Beliefs.

CREATIVE GAMIFICATION AND FUN: POSSIBILITIES OF AUTHORSHIP, AUTONOMY AND COLLABORATION.

Paula Carolei[1], Diene Eire Mello[2], Samantha G. M. Ramos[3], Gabriel da Silva Bruno[4]
[1]São Paulo Federal University, Brazil and Open University, Portugal.
[2]Londrina State University, Brazil.
[3]Londrina State University, Brazil.
[4]São Paulo Federal University, Brazil.

ABSTRACT

The word fun is usually associated with jokes and games, so when talking about fun online learning, it is expected that the elements of games are incorporated into pedagogical strategies such as gamification or even with the use of playful resources.

Carolei and Tori (2014) introduce fun as a dimension of gamification, but they emphasize that it is not the type of fun that distracts or alienates. Indeed, it contributes to immersion and participates in the agency once it proposes the experimentation of the diverse which, as a result, causes and tensions context and player's repertoire and invites him to a more authorial and creative posture.

This idea of fun presented in the creative gamification strategy meets Okada and Sheehy's (2020) perspective of fun in an interactionist and transforming logic considering individual dimensions (constructivist) with personal challenges to actions that involve collaboration and emancipation for social responsibility (interactionist partner).

How can creative gamification and fun promote collaborative and emancipatory actions/attitudes? Based on this questioning, this study innovation is to overcome the reactive, behavioral logic of gamification by promoting more authorship and creative proposals in which the fun is the tension to diversify perceptions and promote collaborative and emancipatory attitudes with social responsibility.

Creative gamification starts from the five principles of creative learning (Resnick 2017): to promote authorial postures, learning by playing, by projects, in pairs, with passion and with purpose.

In the online educational context of a creative gamification strategy, the focus shall fall on investigative, authorship and collaborative actions, in which the fun appears as much as a possibility to learn by playing with challenges that promote realizing the diverse tensioning creative and inclusive propositions, with emphasis on social transformation.

The participants in this investigation were Portuguese, Spanish and English higher education students, in total, six hundred and twenty-five (625) students were involved.

The proposed methodology is qualitative promoted by data analysis of a semi-structured and previously validated questionnaire.

The analysis sought to map the controversies between more behavioral actions and more emancipatory fun proposals that involved games and gamification experienced by these subjects in the online context.

The results highlighted as mapped tensions facilitate building elements for a prototype of a creative gamification framework, with a focus on creating scenarios, narratives and challenges, mobilizing the emancipatory and collaborative dimensions of fun

Keywords: Gamification, Creative Gamification, Fun, Collaboration, Autonomy.

HIGHER EDUCATION IN PANDEMIC TIMES: PERSONALIZATION, ENGAGEMENT, AUTONOMY AND NEW LEARNING STRATEGIES

Daniela Melaré Vieira Barros[1], Adriana Aparecida de Lima Terçariol[2], Elisangela Aparecida Bulla Ikeshoji[3], Vanessa Matos dos Santos[4], Diene Eire Mello[5], Marcos Andrei Ota[6], Eniel de Espírito Santo[7].
[1]Universidade Aberta, Portugal.
[2]Universidade Nove de Julho, Brasil.
[3]Universidade Nove de Julho, Brasil.
[4]Universidade Federal de Uberlândia, Brasil.
[5]Universidade Estadual de Londrina, Brasil.
[6]Universidade Cidade de São Paulo, Brasil.
[7]Universidade Federal do Recôncavo da Bahia, Brasil.

ABSTRACT

A massive, distant, transmissive and unattractive learning modality for students can cause a lack of autonomy, lack of interest and, as a consequence, non-engagement of students. The innovative perspective of this study focuses on examining which recommendations for the customization of teaching strategies through pedagogical resources, aiming to promote an engaging and engaging online education for sustainable and fruitful dynamics as ways of co-learning (Iyengar, R., 2020). Diversified strategies using digital technologies in online Higher Education expand the development of autonomy for individual, collective and emancipatory learning (Okada & Sheehy, 2020).

The most recent literature, some of them even developed during the COVID-19 pandemic, indicates that new approaches to learning are being grounded in diverse perspectives, according to needs and preferences for the process of adapting to the conditions and profiles of students (OECD, 2020; Aguaded, I., Jaramillo-Dent, D., & Ponce, 2021; Fullan, 2020).

What types of pedagogical resources can be adopted to provide fun learning, highlighted as "meaningful - engaging" in online higher education, considering the context of the pandemic?

This qualitative exploratory study collected data generated from an open online questionnaire implemented by the UAb-PT network aimed at students during a period of three month in higher education in Portuguese-speaking countries (Brazil, Portugal and Angola). To analyze data, the research adopted the technique called Collective Subject Discourse (CSD), which allows the grouping of testimonies and their respective synthesis (Lefevre, F. & Lefevre, A., 2005). In total, data from 625 responding students were analyzed.

The results summarized in Table 1 were interpreted according to the framework of the “four levels of fun for online learning” Okada (2020).

OLAF Didactic Strategies (Okada, 2020)	Pedagogical Resources	Technology
Constructivist	Research Brainstorming	Concept maps webquest mentimeter Quizzes
Socio-constructivist	Discussion Collective Writing	Forum Chat Social Apps
Optimal flow	Challenge Inverted class	Games Padlet Comics
Sociocultural	Simulated Jury Project	Storytelling Video Wiki

Table1: elaborated by the authors (2021)

Fun online learning should include the use of technologies, collaborative, individual, networked for co-learning with different activities and exercises according to the needs and preferences of using virtuality. This type of approach personalizes learning according to the student's profile, allows more engaging and fun pedagogical approaches from the point of view of the students in higher education.

Keywords: Higher Education, Personalization, Pedagogical Resources, Engagement, Autonomy.

THE CCS APPROACH AND FUN LEARNING: AN ANALYSIS OF RESEARCH DATA FOR INCLUSION

Klaus Schlünzen Junior[1], Elisa Tomoe Moriya Schlünzen[2], Cícera Aparecida Lima Malheiro[3], Leandro Key Higuchi Yanaze[4], Carmem Silvia Lima Fluminhan[5], Daniela Jordão Garcia Perez[6]

[1]São Paulo State University, Unesp.
[2]University of Western São Paulo, Unoeste
[3]Federal University of São Paulo, Unifesp
[4]Federal University of São Paulo, Unifesp
[5]São Paulo State University, Unesp
[6]São Paulo State University, Unesp

ABSTRACT

The social distancing measures imposed by the COVID-19 pandemic highlights the importance of considering accessibility in strategies, resources and pedagogical actions in learning environments combined with the Constructionist, Contextualized and Meaningful (CCS) approach in the perspective of the principles of learning with fun. The CCS approach has been successfully consolidated in the past 20 years as it values diversity and centers the students´ skills and potential to promote meaningful and contextualized learning. This study is innovative and aligned with the Sustainable Development Goal 4 (SDG4), which scope is "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all", since it reinforces the importance of considering accessibility in strategies, resources and pedagogical actions in learning environments consistent with the CCS approach and the principles of learning with fun. In this context, this study sets to analyze the perception of educators concerning the relationship they establish between diversity, inclusion and fun learning with reference to the assumptions of the CCS approach. As part of the Online Learning and Fun (OLAF) project, a questionnaire was applied to 897 students, teachers, lecturers, and other stakeholders in 7 countries between November and December 2020. For the purpose of this study, selected data for analysis correspond to the teachers and lecturers. The results demonstrate that among teachers and lecturers, 96% agree that students and teachers/lecturers should participate together in learning in diversity. These teachers and lecturers reveal they use diversified pedagogical strategies to promote open, more meaningful and engaging learning. Accordingly, only 5% indicate that it is necessary to separate the students in a homogeneous way and by intelligence. The study proposes an extended discussion of the challenges facing the complexity of Education during and in the post-pandemic global setting.

Keywords: Inclusive Education. Constructionist, Contextualized and Meaningful Approach Online Learning and Fun, During & Post-COVID-19.

LEARNING EXPERIENCE DESIGN AND ACTIVE METHODS FOR STUDENT FUN, PLEASURE AND ENGAGEMENT IN ONLINE COURSES

Luci Ferraz de Mello, Post-doctoral student at Pontifícia Universidade Católica de São Paulo (PUC-SP), Education (Web-curriculum), Brazil.

ABSTRACT

Issue

How to make online education proposals more pleasurable, fun and engaging for students, enabling the improvement of the desired learning objectives, based on a learning experience design instrument.

Evidence

The COVID-19 pandemic and the consequent need for physical isolation has raised the need to better understand, plan and implement which dynamics promote more fun and pleasure for students, so that they are more engaged in the activities of courses offered in the online format.

Literature

Studies carried out from the bases of Active Pedagogy and Dialogic Education point to the need to use real educational experiences that promote the consistent construction of knowledge. There is also a need to develop a planning instrument that gives visibility to the demands for didactic-pedagogical and communicational adjustments of active methods, aimed at promoting student engagement through fun and pleasurable dynamics.

Innovation

This study seeks to identify how to assist teachers in the adoption of active methods in online course offerings through the adoption of fun and enjoyable activities that result in student engagement and improvement of their learning results, through a learning experience design instrument.

Purpose

To know and understand which activities are carried out in online courses that students find fun and pleasurable, that make them engage in the learning processes, for the improvement of the desired results.

Research Questions

What are the didactic-pedagogical and communicational practices considered fun and pleasurable by students, which can provide the improvement of learning results? Which are their structuring aspects and how can they be visualized, clearly known, monitored and adjusted? How to promote these differentiated learning experiences for the improvement of the desired learning results?

Methodology

Qualitative research through content analysis, using a digital form composed of closed and open questions answered by undergraduate students.

Participants

Students (71) from the different undergraduate courses at PUC / São Paulo / Brazil, participating in the online survey OLAF - Online Learning and Fun.

Findings

The results obtained are analysed and weighted based on the relationships mapped between the fun and pleasurable practices reported by the students and the structuring characteristics of the active pedagogy, dialogical education and design instrument that can be adopted for their planning and execution.

Keywords: Dialogic Education, Visible Learning, Learning Experience Design, Visible Thinking, Learning with Fun.

THE PLEASURE OF LEARNING: THE VISION OF COMPLEX THINKING

Ana Maria Di Grado Hessel[1], Maria Otilia Jose Montessanti Mathias[2]
Pontifícia Universidade Católica de São Paulo/ Brazil

ABSTRACT

Issue

Online learning and fun is a topic that has been the focus of the online research OLAF - Online Learning and Fun - which is a project developed by Open University, UK. The Pontifícia Universidade Católica (PUC), in São Paulo, Brazil, and some other educational institutions in Europe, are involved in this proposal and have developed academic works with the aim of enriching the debate.

Evidence

A disruptive scenario took shape in the context of educational experiences in view of the need to adopt online education in the context of the COVID-19 pandemic. The individuals involved have faced challenges and the need to promote changes is necessary. The search for innovations becomes a priority goal to cope with understanding and promoting the pleasure of learning in new scenarios.

Literature

The concept of understanding in the context of complex thinking (Edgar Morin) complemented by the concept of meaningful learning (David Ausubel) are the filters to support the interpretative analysis of the research. The notion of understanding sees human phenomenology within a historical context and meaning. In this sense, human understanding perceives the individual in its environment, time and space, in its plurality and potential, as well as moved by its meanings and feelings.

Innovation

The study proposes a discussion based on complex thinking (Edgar Morin) with the aim of presenting a reflection on a pandemic reality.

Purpose

To reflect on the conditions in which the pleasure of learning can occur in the context of online classes through the following developments: what senses and meanings are present in learning; in what extent the relationship between theory and practice contributes to meaningful learning; how didactic and methodological strategies, such as problematization, are valued in pleasant learning experiences.

Research Question

How can the conditions perceived by undergraduate students from PUC/São Paulo/ Brazil contribute to identify the best learning experiences in online classes, implemented during the COVID-19 pandemic, with such an objective to understand what the pleasure of learning is?

Methodology

This is a qualitative research that implements an interpretive content analysis. The data collected by means of a digital form, in the OLAF survey, were selected according to educational level criteria of the respondents (in this case it was the undergraduation).

Participants

Students (71) responding to a questionnaire, from different undergraduate courses at PUC / São Paulo / Brazil who are participating in the online survey OLAF - Online Learning and Fun.

Findings

The results are discussed in order to highlight the identified relationship between the individuals' perceptions of the pleasure of learning and the concepts of understanding in the systemic/complex dimension and meaningful learning.

Keywords: Pleasure of Learning, Complexity, Meaningful Learning, Online Classes.

MOTIVATION, INVOLVEMENT AND FUN IN THE ONLINE LEARNING PROCESS: PERCEPTION OF UNDERGRADUATE STUDENTS

Dr Alexandra Geraldini[1], Dr Karlene Campos[2], Dr. Mario Cesaretti[3]
[1, 2, 3]Pontifícia Universidade Católica de SP (PUC-SP) – Brazil

ABSTRACT

Issue

Impact of the Covid-19 pandemic on Higher Education

Evidence

The social distance measures imposed by the Covid-19 pandemic induced Higher Education Institutions to migrate the teaching processes to the online context, supported by digital technologies. Education has been significantly affected, in such a way that new challenges are added to pre-existing difficulties. More than ever, it is necessary to reframe the teaching methodologies, seeking to promote greater student involvement and avoid school dropout.

Literature

The central role of students' feelings and their effective participation in learning processes has been reiterated by scholars in the areas of Psychology (Vygotsky, 2008, 2010; Rogers, 1971), Education (Freire, 1996) and Neurosciences (Damasio, 2018; Immordino-Yang & Darling-Hammond, 2018).

The presence of joy, fun and playfulness in the learning processes has generated an increase in the retention of knowledge and an improvement in the learning results (Santaella, 2012). Active learning methodologies have contributed to students' motivation, involvement, better understanding and memorization of content (Alves, 2008; Valente, 2014).

Objective

Check, among undergraduate students at PUC-SP, how they perceive fun learning and the extent to which it articulates with motivation and involvement and whether, in their opinion, fun should be part of learning.

Methodology

This quantitative and qualitative research is part of a project coordinated by Open University (OU), on the theme of Online Learning and Fun. The data were collected through a questionnaire applied to students from different universities in Brazil and Europe. In Brazil, there were 153 respondents, of which 71 are undergraduate students. The corpus of this work is composed by 69 undergraduate students at PUC-SP.

Results

Data reveal that most students consider that fun should be associated with learning and relate fun learning to activities that promote motivation and involvement. However, online learning experienced during the period of social isolation was considered fun by only 27% of participants. Considering the important role that fun and enjoyment can play in the learning process, this last data reiterates the already addressed need to reshape pedagogical dynamics and strategies at the University.

Keywords: Online Learning, Higher Education, Student´s Motivation, Fun, Enjoyment, Perception.

ALGORITHMIZATION OF HAPPINESS OR THE RECONSTRUCTION OF THE HUMANIZING NATURE OF NUMBERS?

Prof Dr Fernando José de Almeida[1], Prof Dr Maria da Graça Moreira da Silva[2]
[1, 2] Pontifical Catholic University of São Paulo, Brazil

ABSTRACT

Issue

This article is situated in the Online Learning and Fun (OLAF) research context, which brings together many universities to understand the meaning, importance and efficiency of learning that is considered "fun, pleasureful and meaningful", particularly in activities taking place during the Covid-19 pandemic. It considers the meanderings, the values, and the achievements of human beings that have been scrutinized by search engines that aim to reveal their secrets and control their points of entry and exit, adapting them to the dominions and finalities of *Big Data* operators.

Evidence

Over the last 5 years, Brazil, with its profound socioeconomic differences, has produced and experiences the symbolic and concrete violence that stems from neoliberal thought, the negation of science, of fact substituted for the "post-truth", and the manipulation of data on social media. In this scenario, education takes place through online activities, and one finds youth who are fluent in technologies.

Innovative method

This study analyzes the students' voice regarding their online classes, through the lens of Paulo Freire's (1997) theoretical principles.

Literature

We utilize the concept of algothmization which affects education and ideas of emancipation, liberty, and social transformation through education. It is also based on the concepts of transformational education developed by Freire and concepts by Vieira-Pinto (1995), Zuboff (2020) Levitin (2019), Morozov (2020) and Sadin (2016).

Purpose

The objective is to analyze and shed light on the constitutive elements of the process of algorithmization of "happiness" and its reflexes on education so as to gather, through the students' voices, paths for the construction of its humanizing nature.

Research Question

What are the conceptual paths for the reconstruction of the humanization of education that go beyond the algothmization of happiness?

Methodology

The methodology involves a theoretical debate, as well as qualitative analysis of the answers to a questionnaire about "fun learning".

Participants

The participants consist of almost 70 students in undergraduate courses at the Pontifical Catholic University of São Paulo, who answered the questionnaire in 2020.

Findings

Our findings indicate that students understand learning that is pleasureful or fun occurring in situations that involve a challenge, group projects, interactions between teachers-students-students, when they feel respected, listened to, and valued.

Discussion

The title of the article points to an issue that is part of the recent 3 challenge in education: One of the school's tasks is "to educate citizens that are capable of social interaction and for life that has the quality of being fair and free, through knowledge production"; It's the school's responsibility to produce an understanding of the universal nature of knowledge and the different ethical, economic, aesthetic, and scientific dimensions of social life; It's the school's role to make viable the conditions that permit that new generations have access to such tools, creating projects for society. Technology presents itself in an ambiguous role: at times it can induce a world of consumption and surveillance, and in other moments it has the potential to create solidary and humanizing networks.

Keywords: Curriculum, Fun-Learning Algorithmic ICT.

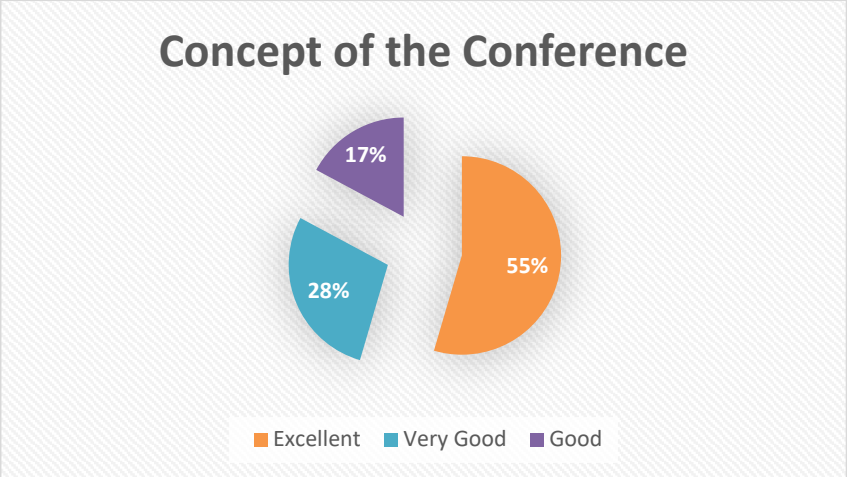
SUMMARY OF THE CONFERENCE EVALUATION

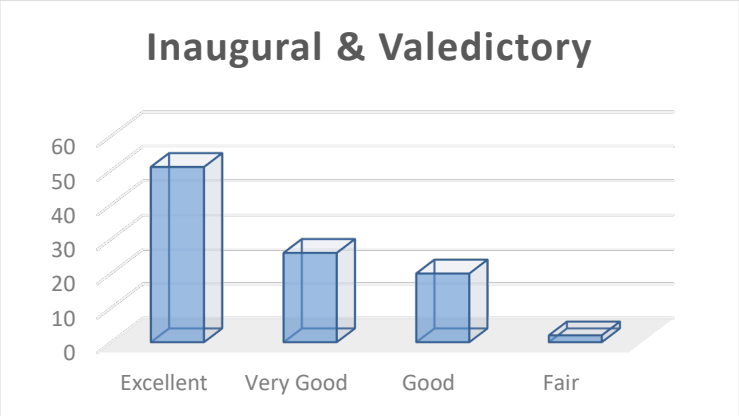
International Conference Feedback Analysis Report

Our 8th Annual International Research Conference this year took place between 26th and 27th August. A large number of papers were initially proposed, from which the Conference Committee selected those felt to most closely align with the ethos, values and focus established in the conference series to date. Even so, the international spread of papers, continuing restrictions on travel due to COVID-19 and the challenge of accommodating a large number of papers in a relatively short timeframe led to the decision to deliver the conference online, building on the success and learning from the 2020 event.

In terms of delegate numbers, delivery of papers, contributions from esteemed guests and key-note speakers, the 2021 conference was a great success. As part of our commitment to continuous improvement the Conference Committee sought the views of both presenters and participants about their experience and observations. A specially constructed survey instrument was used to gather qualitative and quantitative feedback at the end of the conference. Key findings are set out below:

All respondents were positive in terms of the conference concept, validating the choice of theme (Sustainable Development and Education) and underlying categories (Management, Education, Social Sciences, Health & Pure Sciences) This correlates with our UN PRME initiative.

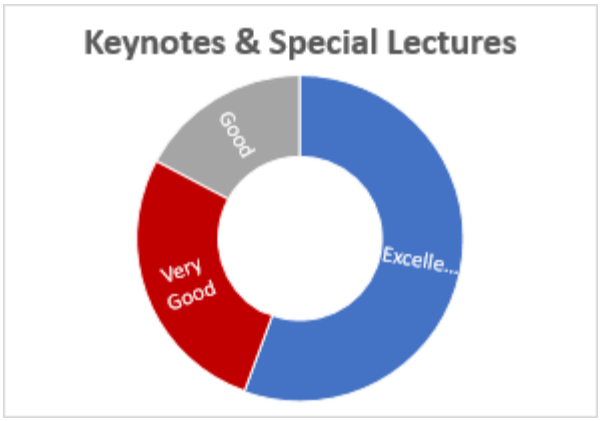




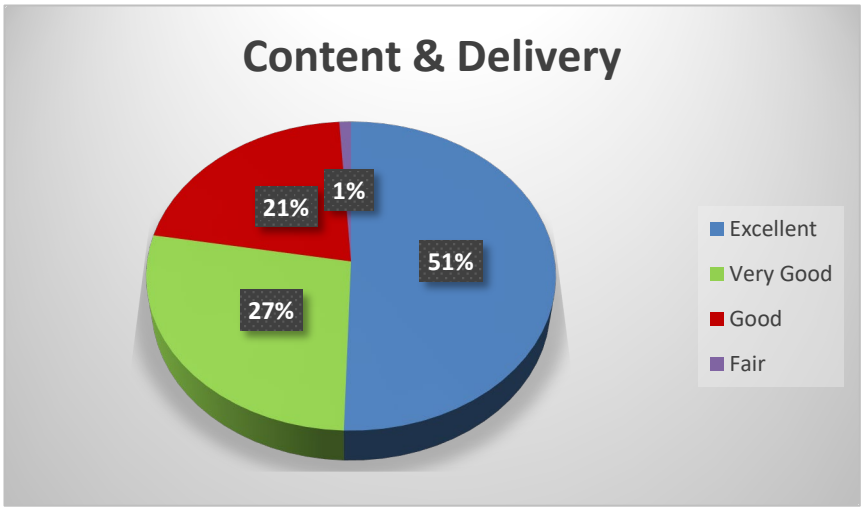
Inaugural and Valedictory sessions were rated very highly by 98% of respondents.

Sessions were engaging for all who attended with specially invited guests sharing their valuable insights around the development of education, and the measures that could be taken to enhance educational practices.

The conference featured two Keynote presentations and a Special Lecture on climate preservation, global education, and maintenance of coral reefs in the Maldives. The sessions were highly informative and well-presented and participants found these sessions very insightful as specialists were able to share their expertise with a well thought out scenarios, methods used to conduct the research, as well as exploring the 'real world' implications of their findings.



Respondents were unanimously positive on these sessions.



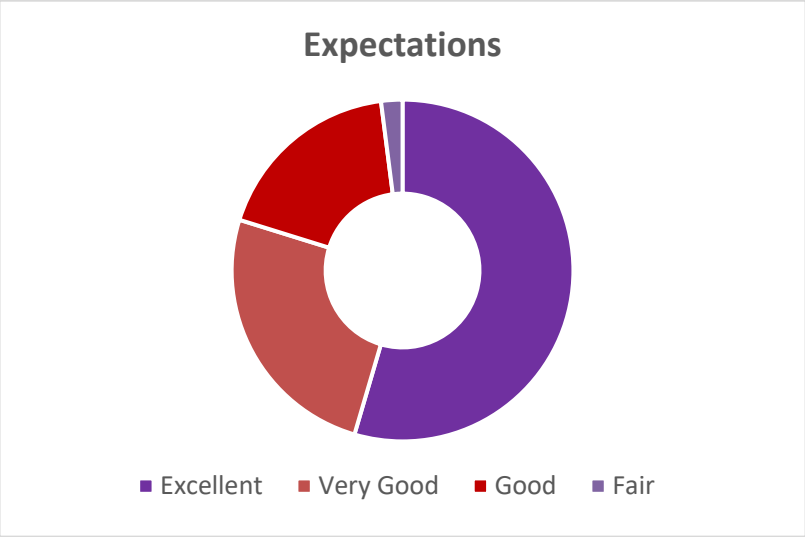
The sessions were split into the following categories:

- Health & Pure Sciences
- Social Sciences
- Education
- Management
- Mathematics
- Languages

We received a higher number of proposals for presentation this year, requiring much more scrutiny in the vetting and selection process due to the limited time available for presentations. This work paid dividends, however with 99% of respondents giving very positive feedback on the content and delivery of presentations.

The presenters and participants were happy with the Conference Committee's organisation of the conference. The event was seamless as the team was able to reflect on the areas of improvement from the last conference. Although some participants faced technical issues, it was minimised this year, and appropriate support was offered, such as being redirected to the breakout rooms. This is evident in the positive feedback provided.

Some presenters felt there might have been more flexibility around delivery slots, such as the time provided for both the presentations, as well as question time, which would have allowed for more interaction among the presenters and participants. Some participants felt that shorter sessions might have allowed for more presentations to take place in one session, thereby allowing for more categories such as Human Resources, Banking and Finance, as well as Special Education, Life Skills Education, and Mental Health and Wellbeing.



The team's consistent efforts to manage high standard international conferences can be identified in the expectations held by the presenters. The high standards achieved in 2020 provided a clear benchmark for this year's conference. Overall delegates and participants reported that this year's event had been much better than last year, if not the best they had experienced.

The conference was deemed to be "perfectly coordinated" by one happy respondent!

Analysis of Free-Text Comments from Survey Respondents

In addition to the closed question responses collected from delegates, presenters and other participants, the Conference Team also gathered comments on a range of areas. This informal feedback will be very valuable in shaping future conferences in the series. Highlights from the analysis of this free-form text included:

- Requests for more award categories for presenters / papers delivered at conference.
    - It was felt that this would further promote engagement in the future conferences. It will give motivate the presenters to work on the quality of their research and presentations.

- Greater diversity in the grouping of papers
    - It was commented that some sessions had presenters from a single country, despite there being 11 nations represented in the 2021 conference

- Time for networking and 'break-out sessions' / workshops
    - It was noted that the conference was 'delivery oriented' and might have benefited from time set aside for networking and workshops, in which deeper discussions on presentations could have taken place.

- Dedicated platform for paper submission
    - Some presenters found the process for submitting their papers somewhat onerous

- Session Chair / Rapporteur Selection from same disciplines as speakers
    - It was felt that having chairpersons and rapporteurs of the same discipline would ease the communication in the sessions.

- Access to content (presentations and recordings of keynote / special lectures)
    - Participants also wanted more access to the content, such as the presentations and recordings to be made available after the conference, and more information on the website, as well as social media platforms such as Twitter. Participants look forward to the book launch with all the presented papers.

Overall, from the qualitative and quantitative feedback from respondents, it appears that participants were extremely happy with how the conference was conducted. They found it well organised and systematic, and they were able to see the planning that went into the conference. The quality of the papers selected was so great, many participants felt they were disadvantaged by only being able to attend one parallel session at a time, and would love to be participate in all presentations, which could be possible in a physical, or hybrid conference. All the participants look forward to attending the next conference, as they thoroughly enjoyed this one, and felt "everything was flawless".

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9 781838 472900

London School of Management Education
Cambrian House
509-511 Cranbrook Road
Gants Hill
Essex IG2 6EY
United Kingdom

Tel: +44 (0)208 594 8462
Fax: +44 (0)208 626 7061

Email: info@lsme.ac.uk
Website: www.lsme.ac.uk

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